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Three tools for young investors

Accounting, coding and economics will help investors function in the new economy. BY CHUA YEOW HWEE

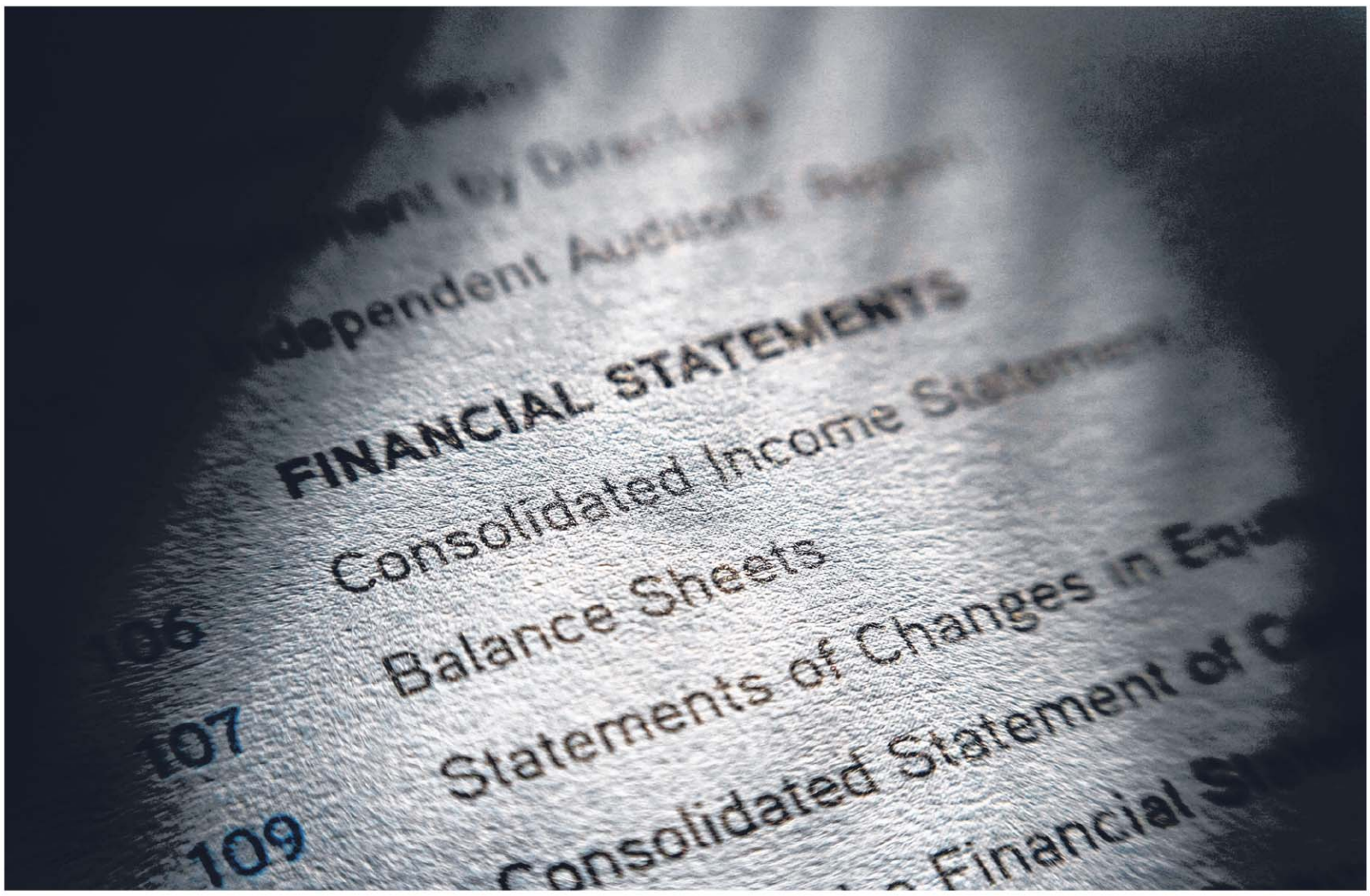
As a university economics instructor, I have the privilege to interact with students making their first foray into investing.

Often, I have been asked what are the essential skills and knowledge, and subsequently modules, that they should pick up to kick start their investment endeavour.

Personally, I would advise them to equip themselves with toolkits that help them differentiate data from economic reality, separating signal from noise.

This is particularly relevant in the new economy. With the availability of big data in both traditional and unconventional areas like the Internet, we have to be able to make sense of the myriad forms of data available for our consumption.

To value a stock, three different but highly related domains are required: Accounting, Coding and Economics (ACE). This will make us more informed and proficient investors.



Higher profits imply that the company is doing well. However, this is too simplistic. What matters more is the quality of earnings, defined as how repeatable earnings can be. A discerning young investor needs to distinguish between recurring and extraordinary events. PHOTO: YEN MENG JIIN

Accounting

To assess the value of a company, we need to learn financial accounting, the principles that guide the preparation of financial statements.

Broadly speaking, financial statements indicate the financial well-being of a company.

Through the income statement and balance sheet, financial statements provide us with data on the financial performance and asset-liability positions of a firm.

In order to determine whether the firm is making profits, we examine the income statement, which summarises the company's revenue and expense transactions over a time period.

Intuitively, higher profits imply that the company is doing well. However, this is too simplistic.

What matters more is the quality of earnings, defined as how repeatable earnings can be. A discerning young investor needs to distinguish between recurring and extraordinary events.

Consider CapitaLand, one of Asia's largest real estate companies. Most Singaporeans would be familiar with their properties such as Raffles City and Ion Orchard.

In August 2016, the firm announced that earnings fell 36.6 per cent to S$294 million in the second quarter ended June 30, 2016, compared to S$464 million the previous year. An uninformed investor would be overly concerned with the sharp fall in earnings.

However, the sharp fall in earnings in 2016, in contrast to 2015, was due to a one-off fair value gain of S$148.4 million in 2015.

In particular, the company had recorded a one-off gain in 2015 as a result of a change in use of a development project in China.

Is it now fair to include the fair value gain for comparison across time?

In fact, what is fair value? While fair value is often defined to be a price agreed by a willing buyer and seller at arm's length, how fair can fair value be? How should fair value be recognised in the income statement?

I would leave it to the judgement of the reader.

But the message is clear. To assess the value of a company, we would need to be clear about the quality of the earnings.

And to do so, we need to have an understanding of the principles behind the preparation of the financial numbers: financial accounting.

Coding

If we are satisfied with the numbers, we now need to make use of our knowledge in coding to put things together.

Coding skills are needed from building basic spreadsheet models to using state-of-the art technology such as high frequency trading algorithms.

Young investors can be overwhelmed by the myriad financial models available when they first learn to evaluate stocks.

While these models can generate varying numbers, it is hard to dispute that coding has allowed us to be more efficient and effective.

There are two schools of thought on the pricing of stocks: technical analysis and fundamental analysis.

The former involves the forecasting of share prices using past market data such as prices and volumes.

Here, coding via technical charting tools plays an important role to identify the direction and magnitude of price patterns and trends.

For example, we could make use of R, a free programming language, to calculate various moving average indicators.

The latter school of thought is about assessing the fundamental value of the company, partly through its financial statements.

We can look at the firm's balance sheet, which provides a snapshot of its assets and liabilities at a particular point in time.

Simple coding in spreadsheets such as using the Excel Visual Basic language, can help automate tasks.

For instance, we can update the net asset value of the firm routinely, after the quarterly release of financial results, to determine changes in the company's intrinsic value.

Then, we can make forecasts on the future valuation of individual assets and liabilities by varying the assumptions used.

Coding with statistical models can be particularly useful in forecasting possible outcomes.

Nonetheless, coding with financial data is meaningful only in an economic context.

Young investors need to appreciate that stock valuation changes in different economic environments.

> "Knowledge of financial accounting and economics is insufficient if we are not able to code and synthesise the information in our valuation model efficiently. With a huge amount of data available in the financial markets changing at a rapid pace, investing can be tedious and time-consuming without coding."

Economics

Thus economic variables play an important role in financial modelling. Forecasts are highly dependent on future economic data such as changes in interest rates and exchange rates.

Interest rates are a key variable in determining the present value of cash flows coming in the future.

With a higher interest rate, the present value will be lower as future cash flows are considered to be worth less today.

This is exemplified by the dividend discount model, where the value of a stock is calculated by finding the present value of the expected future dividends.

In this case, an increase in interest rates can lead to a fall in the stock valuations even though the expected future dividends remain unchanged.

It is thus important for a young investor to be kept abreast of changes in monetary policies.

Lessons in macroeconomics and international finance will be very helpful for students to have a better understanding of expected policy shifts.

With the advent of globalisation, there is an increase in trade and investment across international markets, leading to exchange rate risks.

As companies invest overseas, their profits would be denominated in foreign currencies.

Companies are thus exposed to exchange rate risks when they translate their earnings back to their domestic currency.

For example, CapitaLand has substantial operations in China. As the firm noted in its results presentation for the half-year ended June 30, 2016, a one per cent depreciation in the Chinese yuan against the Singapore dollar affects its net profit by 0.2 per cent, and reduces shareholder's equity by 0.9 per cent.

Hence, depreciation in foreign currencies can affect financial results adversely even though the foreign subsidiaries or investments are doing well.

Once again, it is important to separate the signal from the noise. There is no need to overreact if there are falling profits and asset prices due to a temporary weakening of a foreign currency.

Conclusion

It pays for a young investor to educate oneself with all three key areas of accounting, coding and economics. They complement one another.

For instance, our coding efforts will be in vain without a good knowledge of financial accounting and economics.

Regardless of the strength of our model, the old adage "garbage in garbage out" still holds. The quality of the inputs will determine the quality of the output.

Similarly, knowledge of financial accounting and economics is insufficient if we are not able to code and synthesise the information in our valuation model efficiently.

With a huge amount of data available in the financial markets changing at a rapid pace, investing can be tedious and time-consuming without coding.

As young investors, time is on your side when you invest early. The most rewarding form of investment is to invest in oneself.

Young investors can become more perceptive and astute, while understanding the world one step at a time.

The writer is an instructor in the Department of Economics at the National University of Singapore.

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