NOVEMBER 2019

Cardinal Update

Artificial Intelligence

There are a lot of opinions about the impact that artificial intelligence (A.I.) will have on the world. These range from the cynical – that A.I. is a buzzword, to the dystopian – that A.I. will usher in a future of massive unemployment. To cut through this confusion, authors of the book, Prediction Machines: The Simple Economics of Artificial Intelligence, offer a useful shorthand to reduce the confusion of what A.I. is: whenever you see the term A.I. used, replace it with "cheap predictions".

Predictions are the process of filling in missing information. It uses information you have (data) to generate information you don't have. For example, A.I. is being used in radiology. It is trained with millions of old images and diagnostics. It is then given a new patient scan and gives a prediction as to whether cancer is present or not. Tests are conducted to confirm the prediction and this data is fed back into the A.I. to improve the prediction ability. This is superior to human ability due to the sheer amount of data an A.I. has accessed.

In terms of our portfolio's exposure to A.I., under the framework of "cheap predictions" the answer is literally every company in the future will have exposure to A.I. in some way or form. All basic business skills including accounting, inventory, sales, and human resources employ predictions in some way. It is akin to asking the question of which companies are benefiting from Microsoft Excel. That said, we did want to expand on a couple of areas. The first is on companies that are enablers of A.I., namely semiconductor companies Intel and Taiwan Semiconductor (TSM). The second is on companies that are using A.I. such as the Canadian banks.

The computing requirements for A.I. are a major growth driver for both Intel and Taiwan Semiconductor (TSM). Mckinsey estimates the A.I.-related semiconductor opportunity will grow at 18% per year for the next 5 years and will account for 20% of all 2025 semiconductor demand ($67B). Intel is servicing this market as the world's largest CPU design and manufacturer and also has opportunities in FPGA, GPU, and memory chips. TSM on the other hand does not design its own chips, they are a pure-play foundry that manufactures technologically advanced chips for customers. This has its advantages as TSM participates across the A.I. chip value chain by virtue of companies like AMD, NVIDIA, Xilinx, Google, and Alibaba.

In the case of Canadian banks, A.I. is being deployed throughout the bank to support both revenue generating and cost saving activities. On the revenue side, A.I. is helping to analyze customer interactions to "predict" what product a customer may need and provides this information to the frontline staff to utilize in their next interaction. This helps to both deepen the client relationship via product count, while providing value to the client. On the cost side, one particular area of use is in the underwriting and management of credit, which utilizes data points to enhance both the decision to extend credit to a customer (i.e. "predict" what good credit risk looks like), and in adjusting outstanding credit to existing customers (i.e. "predict" collectability of outstanding lines and to make appropriate adjustments).

Company Focus:

ENBRIDGE

Enbridge is the largest energy infrastructure company in North America with a market capitalization of $96B.

It controls critical, irreplaceable infrastructure that transports 25% of North America's crude oil, 20% of its natural gas, and the majority of the natural gas used in residences and businesses in Ontario. While many think of Enbridge as an oil pipeline company, the split between oil and natural gas is roughly 50/50.

This portfolio of infrastructure assets is continuing to drive growth in earnings despite much publicized difficulties in getting certain projects approved. Over the past 10 years, Enbridge has grown its earnings per share by nearly 9% per year, which has supported dividend growth of 15% per year on average. Looking forward, Enbridge is placing $9B of projects into service this year, $10B of projects into service in 2020, and $5-6B per year thereafter, which will support 5-6% dividend growth. These projects are more bite-sized than mega-projects of the past and carry low regulatory risk. They primarily include natural gas pipelines to facilitate LNG exports and offshore wind projects in Europe. It also includes the Line 3 Replacement projects, which have experienced many delays, but we remain confident that the company will receive full approvals and begin construction in the coming months.

DIVIDEND INCREASES

VF Corp.	11.6%

(During the period October 1 to October 31, 2019)

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CARDINAL CAPITAL MANAGEMENT, INC.