LIGHTHOUSE ADVISORS
Keeping Your Capital Safe

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Public Newsletter for the period ended 31 Dec 2019

1. Foreword

Fellow Investors,

Welcome to the Lighthouse Advisors newsletter for December 2019.

This newsletter follows the same format as previous issues. The special topic for this issue is **Software as a Service**.

2. Market Commentary

2019 ended with a partial deal in the US-China trade war[1]. The US will lift some tariffs, while China will buy more US products. However, of US$520bn of goods covered by the tariffs, the 25% rate remains on the initial US$250bn, and another $120bn (taxed since 1 Sep) will be subject to a 7.5% tax (versus 15% previously). The remaining US$156bn (taxable since 15 Dec) will be exempt. So of the maximum US$120bn of tariffs that could have been levied, over US$70bn remains[2].

China's growth continued to slow, though it was still the fastest-growing large economy in 2019. Passenger car sales, a key proxy of domestic durable goods consumption, fell 9.6% versus the previous year, and sales are forecast to continue declining in 2020.

Current news headlines are dominated by the Wuhan coronavirus. The disease has officially been named "Covid-19" with the virus itself dubbed "SARS-CoV-2". It was first detected in the Chinese city of Wuhan in late December. The local government tried to cover it up[3], with the result that the outbreak spread widely before large-scale prevention efforts kicked in. To date, it has infected over 75,000 in China and killed more than 2,500.

Many cities have gone into lockdown, with restrictions on travel and social gatherings that now affect more than half the population[4]. Public events have been cancelled, the Chinese New Year holidays were extended, and schools closed to try and curb the spread.

The outbreak recalls the SARS outbreak of 2003. China is likewise aggressively ramping up medical services, building 2 new hospitals in Wuhan within days, converting existing large-scale spaces into temporary field hospitals, and sending thousands of medical personnel to Wuhan to relieve the strain on the city's own medical infrastructure.

The economic effect has been wide-ranging. Offline businesses that remain open have seen enormous declines in business. The travel industry has ground to a halt as flights, hotel stays and cruises have been cancelled. Even food delivery and private transport have taken a hit, as customers fear delivery personnel and car drivers may spread the virus. However, online grocers are seeing a boom, as consumers have turned to cooking at home.

Many countries have restricted travel to and from China, and anyone arriving from China is quarantined. Supply chains have been disrupted as many companies rely on Chinese factories for components or finished goods.

Ironically, as China itself produces about half the world's face masks, it now faces a mask

[1] *Phase One U.S., China Trade Deal To Be Signed This Week: Report*, **Forbes**, 30 Dec 2019.

[2] *What's in the U.S.-China Phase 1 trade deal*, **Reuters**, 16 Jan 2020.

[3] *Coronavirus: the cost of China's public health cover-up*, **Financial Times**, 7 Feb 2020.

[4] *To Tame Coronavirus, Mao-Style Social Control Blankets China*, **New York Times**, 16 Feb 2020.

shortage as its own factories were closed due to the outbreak. These factories are now working overtime to meet the spike in demand. Some non-medical companies like Foxconn, BYD, and Sinopec have also set up mask manufacturing lines[5].

Outside China, new outbreaks have been detected in South Korea and Italy. South Korea now has the largest number of cases outside China[6].

For SARS, the outbreak was in February, but it was over by July, just 5 months later. Apparently, the SARS virus could not survive the heat of summer. This new virus is likewise susceptible to heat and humidity, so there is a chance it may also peter out by July.

A look at how some Asian stock markets reacted during SARS in 2003 may provide some perspective:

Market (Index)	Peak-to-Trough Loss	Full Year
Singapore (STI)	-13.4%	+31.6%
Hong Kong (HSI)	-14.8%	+34.9%
Japan (Nikkei)	-13.5%	+24.5%
South Korea (KOSPI)	-22.7%	+29.2%
Taiwan (TAIEX)	-18.5%	+32.3%
Malaysia (KLCI)	-8.4%	+22.8%
China (SSE)	-4.5%	+10.3%

Although some markets suffered more than others, as a group the Asian markets shrugged off SARS and delivered strong returns for investors in 2003. Your manager continues to rebalance the portfolio in favour of high-quality businesses.

Benjamin Koh
Chief Investment Officer
Lighthouse Advisors
24 Feb 2020

[5] *Chinese Carmakers Are Now Making Face Masks, Prompted by Coronavirus*, **Bloomberg News**, 10 Feb 2020.

[6] *South Korean cases, jump, China counts 150 more virus deaths*, **Associated Press**, 24 Feb 2020.

3. Portfolio Review

As at 31 December 2019, the Net Asset Value (NAV) of the Fund was USD 82.795. Net of all fees, the year-to-date return was -4.5%.

It was not a good year for the Fund. After nearly 2 years of poor results, your manager undertook an overhaul of the portfolio in Q4. The results seem to be working so far, though more time will be needed to confirm the ultimate effectiveness.

For reference, below are the results of the Fund against its key markets:

Market (Index)	1Q19	2Q19	3Q19	4Q19	Full Year
Singapore (STI)	+4.7%	+3.4%	-6.1%	+3.3%	+5.0%
Hong Kong (HSI)	+12.4%	-1.8%	-8.6%	+8.0%	+9.1%
Shanghai (SSE)	+23.9%	-3.6%	-2.5%	+5.0%	+22.3%
Fund	**+3.9%**	**-6.5%**	**-9.1%**	**+8.2%**	**-4.5%**

The Fund put up a good performance in Q4, but this was not enough to completely offset declines in Q2 and Q3, so it finished 2019 with a loss and lagged its key markets.

Apparent valuations of the "high-quality" businesses are significantly higher than for the bargain purchases. This is a tradeoff; quality is seldom heavily discounted.

25 securities made up 95% of the Fund's holdings, with the balance in cash. NAV values are tabled in Annex I.

To protect the interest of clients, detailed discussion is confined to the client-only version of this newsletter. Client newsletters are embargoed for one year, after which they are made available online.

4. Software as a Service

Software as a Service (SaaS) refers to the concept of computer software as a subscription service, instead of a purchased product.

Salesforce is the poster child of the SaaS industry. Founded in 1999, Salesforce is the world's most popular customer relationship management (CRM) tool. Salesforce was valued at US$125 bn at the end of 2019. However, net profits were only US$1.1bn. Ten years prior, it was valued at US$9 bn. At IPO in June 2004, it was valued at US$1.1 bn. Absent a persistent 15-year overvaluation bubble, it must be doing something right. The table below shows Salesforce's performance.

Year ended 31 Jan	Sales USD mn	Profits USD mn	Mkt Cap. 31 Dec USD bn	Price / Sales
2001	5.4	(31.6)	Private	N/A
2004	96.0	3.5	1.1*	11.5
2009	1,077	43.4	9.1	8.4
2014	4,071	(232.2)	36.2	8.8
2019	13,282	1,110	125.2	9.4

*IPO price on 23 Jun 2004

Clearly, despite (or because of) its spotty profit record, investors value Salesforce using a multiple of sales and not profits. Investors who required a reasonable price/earnings ratio missed out on a 100-fold return since IPO. Even 5 years after IPO, there was a chance for a 13x return, and in the last 5 years a 3.5x return was still possible.

Are there useful lessons for investors? If Salesforce is not a one-off, perhaps there are some key traits of the SaaS business model that make such companies great investments.

What is so attractive about SaaS? Short answer: it is currently a "win-win" for both customers and providers.

First, at current prices, most SaaS services are cheap relative to the value obtained. Prices are usually tens of dollars per month, which works out to less than US$1,000 per year per user. For most customers, this is a small cost to support the employee using the service. For example, Microsoft's Outlook email service starts at US$5 per user per month. But US$5 is below the *hourly* minimum wage in the US (US$7.25 per hour). For a large company with thousands of employees, the absolute amount is not small, but relative to payroll, it is a rounding error. Even at *five times* the current price, it would still be affordable.

Second, because the software runs on the cloud provider's servers, the user always gets the latest version. This is important for bug fixes and new features. Many customers can shrink their in-house IT support departments, reducing headcount and payroll. Given the high cost of skilled IT personnel, customers may actually realize a net savings.

Third, as the service is priced per user, it can be scaled up or down with customer needs, an important consideration for new ventures.

The "win" for customers is clear. Where is the "win" for providers?

First, monthly payments are low, but over time the customer pays more versus the purchase (permanent license) model, so switching to SaaS increases revenues and profits.

Second, customer loyalty is high because of switching costs. Employees need training to use the software, and changing to another provider to save a few dollars a month is seldom worth the hassle. This high switching cost, together with (currently) affordable prices, confers pricing power on the provider. Retention rates above 90% are not uncommon in SaaS.

Third, centralizing software on servers means bug fixes and new features are implemented quickly, reducing the need (and cost) to train the customers' in-house IT personnel.

The combination of the above creates a virtuous cycle. Higher cash flows permit more investment into research and development to improve the product, which drives customer loyalty, which increases pricing power, which in turn increases cash flow.

For as long as SaaS delivers a win-win, it will continue to grow and prosper.

This brings us back to the question of why investors value Salesforce (and many other SaaS companies) on the basis of sales. One reason is that sales tend to be more stable than profits, so when profits fluctuate (or turn to losses) there is still a way to value the business. But even now, when Salesforce is prospering, it sells for over 100 times trailing earnings. *Que pasa?*

The key argument is that in a fast-growing market, SaaS companies must invest heavily into R&D as well as sales and marketing in order to grab market share. Once the market matures, these expenses level off, and profitability improves - with the caveat that sales will plateau. Therefore, the key metric is **sales growth** and *not* reported profits, as profits can easily be "created" on short notice by reducing R&D or sales and marketing expenses.

For Salesforce, R&D expenses in FY19 were US$1.9 bn. Sales and marketing costs were US$6.1 bn, and pretax income from operations was US$535m. Reducing sales and marketing 20% would have saved ("earned") another US$1.2 bn, more than tripling pre-tax profits. Conversely, as the market matures and consolidates, Salesforce could also raise prices by a modest 5%. If enacted in FY19, this would have doubled pre-tax profits.

Of course, there are limits to sales growth and price increases. The market for any given SaaS eventually saturates, and prices have a ceiling. But for many companies, the market is growing fast, and SaaS remains affordable.

The lesson for investors here may be that <u>conventional price/earnings ratios severely undervalue a SaaS company's earning power</u>. But it behooves the investor to track said company closely: reduced expenses (and thus improved profits) may ironically be a red flag that the company is having trouble growing sales (and future profits).

Some successful SaaS use cases:

Activity	**SaaS Providers**
Customer Relationship Management	Salesforce
Accounting	Intuit, Xero
Human Resource and Payroll Management	Automatic Data Processing, Paychex
Productivity Software	Microsoft, Adobe
Online Entertainment	Netflix, Activision Blizzard

As always, investors need to do their own homework.

End

Annex I

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2008										34.16	33.49	35.62	**+4.3%**
2009	34.57	33.52	33.37	36.69	46.20	46.00	50.06	49.68	52.66	54.17	56.68	59.94	**+68.3%**
2010	59.05	61.09	65.17	68.27	64.14	65.69	70.65	72.24	81.06	83.56	85.10	90.30	**+50.6%**
2011	87.21	86.29	88.13	92.81	90.85	91.35	91.17	83.69	69.04	78.23	73.00	72.88	**-19.3%**
2012	77.40	82.90	82.52	83.32	76.36	77.25	77.27	77.91	80.57	79.44	82.70	84.92	**+16.5%**
2013	91.43	97.36	99.96	100.24	99.14	95.09	98.50	100.00	100.86	102.24	102.63	102.93	**+21.2%**
2014	99.15	101.78	99.80	101.84	105.45	106.57	109.05	108.58	103.60	103.91	101.87	99.94	**-2.9%**
2015	97.97	98.16	97.74	103.80	103.69	100.99	96.17	85.91	84.17	88.91	86.20	86.35	**-13.6%**
2016	81.56	83.81	88.82	92.18	91.50	91.52	94.48	94.86	94.87	93.34	91.92	90.20	**+4.5%**
2017	93.18	97.08	101.10	101.39	105.74	107.11	109.67	108.57	109.35	112.57	108.28	109.41	**+21.3%**
2018	113.04	109.56	109.03	105.39	109.62	104.37	101.26	93.71	94.25	85.19	86.83	86.66	**-20.8%**
2019	91.98	92.36	90.04	90.21	82.80	84.21	82.57	78.45	76.52	77.82	78.75	82.80	**-4.5%**

Note: The Net Asset Value of the Fund has been linked to the rebased NAV of the Reference Account, which had the same investment style. Until the launch of the Fund, the Reference Account served as the model portfolio for all the separately-managed client accounts. Its trading records were distributed to clients as proof that the Manager's interests were fully aligned with those of the clients. The Reference Account was started at the end of 2008 and became inactive following the launch of the fund on 1 September 2013.