

# Quarterly Index Review - July 2019

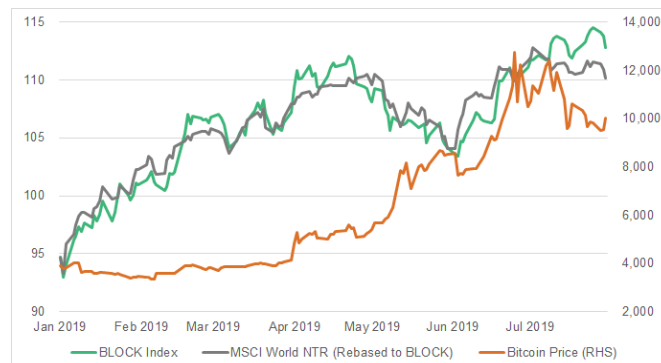
## Elwood Blockchain Global Equity Index (BLOCK Index)

### Performance overview

During the three months to the end of July 2019, the Elwood Blockchain Global Equity Index increased in value by 3.3%, in comparison to the MSCI World Net Total Return Index which increased in value by 0.9%.

Overstock, Global Unichip and CME Group were the biggest positive contributors to performance for the quarter, while Riot Blockchain, Nexon and Qualcomm, were the most significant detractors in the quarter.

### Index Performance



(Source: Bloomberg, Elwood. Bitcoin price in USD. All figures in USD)

### Analyst Commentary

Generally speaking, the Index continued to perform inline with the MSCI World Net Total Return Index in the quarter, with a moderate outperformance of 2.4%. This outperformance was driven primarily by a strong performance from the cyclical semiconductor names in the cryptocurrency mining area and consumer and internet stocks in the blockchain payment systems area. In the quarter Bitcoin appreciated in value by 91.4%.

If there is a significant increase in the price of Bitcoin to around US\$15,000 and this price is maintained for several months, stocks in areas of cryptocurrency mining and blockchain financial services are likely to see a material improvement in earnings, which should generate significant alpha for the Index. In the longer term, other areas such as blockchain payment systems and blockchain technology solutions may contribute more to outperformance versus the MSCI World Net Total Return Index, if the penetration of blockchain technology in the corporate world proves successful.

The Index remains significantly exposed to the cryptocurrency mining supply chain, as these companies are rated favourably within the Index framework due to their proven capability of generating significant profit margins and cash flow from the blockchain area. Of the four companies with a blockchain category score of 4 or 5, three are assigned to cryptocurrency mining blockchain areas.

In contrast with the previous quarter when the team spent around five weeks in Asia to meet companies and Blockchain industry participants in Hong Kong and Japan, most of the time in this quarter was spent in Europe. The team spent considerable time on evaluating cryptocurrency mining companies and interviewed senior management teams from all the major listed cryptocurrency mining companies. The other main area of focus in the quarter was blockchain financial services, where analysts spoke to management teams of some of the key listed cryptocurrency trading platforms.

The blockchain theme continued to penetrate the corporate world in the quarter, most notably with regards to the launch of Libra, a new proposed token, primarily driven by Facebook (which has been added to the Index as at July 2019). The vast array of large corporates in the Libra Association, including companies like Mastercard, VISA, eBay and Vodafone, demonstrates the willingness of the corporate world to engage and experiment with blockchain technology. However, we still feel there is a long period of learning ahead, when corporates begin to build a significant understanding of both the potential and limitations of blockchain technology. This process may take several years and analysts on this Index are patient enough to capture the potential long term benefits of blockchain technology.

## Overall performance data

	1m	3m	YTD
BLOCK Index	1.6%	3.3%	19.1%
MSCI World Net Total Return Index	(0.1%)	0.9%	17.6%
Bitcoin	(4.3%)	91.4%	172.9%

(Source: Bloomberg, Elwood. All figures in USD)

## BLOCK Index performance data by sector

Performance	1m	3m	YTD
Communication Services	2.6%	(4.8%)	6.5%
Consumer Discretionary	19.8%	21.0%	45.8%
Financials	(2.1%)	5.3%	3.6%
Information technology	1.1%	3.8%	31.6%
Materials	(3.8%)	2.2%	9.0%
Utilities	7.4%	7.8%	(21.0%)
<b>Total</b>	<b>1.6%</b>	<b>3.3%</b>	<b>19.1%</b>

Contribution	1m	3m	YTD
Communication Services	0.3%	(0.9%)	0.2%
Consumer Discretionary	1.4%	1.5%	3.4%
Financials	(0.5%)	1.3%	1.1%
Information technology	0.5%	1.6%	14.4%
Materials	(0.3%)	(0.2%)	0.9%
Utilities	0.2%	0.2%	(0.4%)
<b>Total</b>	<b>1.6%</b>	<b>3.3%</b>	<b>19.1%</b>

(Source: Bloomberg, Elwood. All figures in USD)

## BLOCK Index performance by country of domicile

Performance	1m	3m	YTD
United States	5.1%	4.2%	30.6%
Japan	(2.3%)	3.4%	16.5%
Taiwan	6.4%	10.9%	24.1%
South Korea	0.9%	(2.8%)	16.4%
United Kingdom	(6.5%)	2.5%	12.4%
<b>Total</b>	<b>1.6%</b>	<b>3.3%</b>	<b>19.1%</b>

Contribution	1m	3m	YTD
United States	1.8%	1.3%	11.2%
Japan	(0.7%)	1.0%	4.8%
Taiwan	0.7%	1.2%	2.6%
South Korea	0.1%	(0.4%)	0.1%
United Kingdom	(0.4%)	(0.2%)	1.0%
<b>Total</b>	<b>1.6%</b>	<b>3.3%</b>	<b>19.1%</b>

(Source: Bloomberg, Elwood. All figures in USD)

## Quarterly correlation and volatility metrics

Correlation	July 2019 Quarter
BLOCK Index vs MSCI World Net Total Return	0.64
BLOCK Index vs Bitcoin	(0.08)
Beta	July 2019 Quarter
BLOCK Index vs MSCI World Net Total Return	0.70
BLOCK Index vs Bitcoin	(0.01)
Realised Volatility	July 2019 Quarter
BLOCK Index	11.4%
MSCI World Net Total Return	9.1%
Bitcoin	98.7%

(Source: Bloomberg, Elwood)

(Notes: Based on daily percentage change. All figures in USD)

## Performance data by blockchain business area

Performance	1m	3m	YTD
Blockchain financial services	0.8%	3.4%	2.5%
Mining hardware	3.4%	6.2%	24.4%
Blockchain technology solutions	(0.1%)	(0.0%)	33.2%
Blockchain payment systems	14.1%	17.2%	35.1%
Energy	(5.4%)	(7.7%)	6.0%
Mining operations	(7.4%)	7.1%	30.3%
Token investments	(7.7%)	7.8%	20.5%
<b>Total</b>	<b>1.6%</b>	<b>3.3%</b>	<b>19.1%</b>

Contribution	1m	3m	YTD
Blockchain financial services	0.3%	0.6%	0.6%
Mining hardware	0.7%	1.3%	5.1%
Blockchain technology solutions	(0.0%)	(0.2%)	7.5%
Blockchain payment systems	1.5%	1.9%	3.7%
Energy	(0.4%)	(0.5%)	0.6%
Mining operations	(0.4%)	0.4%	1.6%
Token investments	(0.1%)	0.2%	0.4%
<b>Total</b>	<b>1.6%</b>	<b>3.3%</b>	<b>19.1%</b>

(Source: Bloomberg, Elwood. All figures in USD)

## Top five constituents by contribution - July 2019 quarter

Best	Total return	Contribution
Overstock	70.9%	1.6%
Global Unichip	14.9%	0.6%
CME Group	9.1%	0.5%
Digital Garage	19.9%	0.5%
Tul Corp	19.5%	0.5%

Worst	Total return	Contribution
Riot Blockchain	(58.3%)	(1.2%)
Nexon	(31.4%)	(0.8%)
Qualcomm	(14.3%)	(0.4%)
Ceres	(21.1%)	(0.3%)
Line Corp	(6.6%)	(0.2%)

(Source: Bloomberg, Elwood. All figures in USD)

## Index members & performance

Name	Weight	2018	2019 YTD	July 2019 Quarter	May-19	Jun-19	Jul-19
CME Group Inc	5.4%	32.1%	4.2%	9.1%	7.4%	1.4%	0.2%
Global Unichip Corp	5.0%	(20.0%)	25.1%	14.9%	(1.4%)	3.3%	12.9%
GMO Internet Inc	4.8%	(20.5%)	23.6%	6.5%	1.1%	16.1%	(9.3%)
TSMC	4.5%	(1.0%)	16.8%	2.9%	(11.0%)	6.8%	8.2%
Kakao Corp	3.7%	(27.7%)	16.2%	4.2%	1.5%	8.5%	(5.4%)
IG Group Holdings PLC	3.6%	(20.2%)	(1.9%)	5.0%	3.9%	7.3%	(5.8%)
Overstock.com Inc	3.4%	(78.7%)	65.8%	70.9%	(27.5%)	42.4%	65.6%
Advanced Micro Devices Inc	2.8%	79.6%	65.0%	10.2%	(0.8%)	10.8%	0.3%
Digital Garage Inc	2.8%	(13.7%)	54.7%	20.1%	12.5%	(3.0%)	10.0%
NTT Data Corp	2.7%	(7.1%)	21.9%	13.9%	3.3%	11.0%	(0.7%)
Square Inc	2.6%	61.8%	43.4%	10.4%	(14.9%)	17.1%	10.9%
Tul Corp	2.6%	(13.8%)	36.8%	19.5%	6.9%	10.7%	1.0%
Nomura Research Institute Ltd	2.6%	(19.4%)	46.4%	10.1%	0.5%	(1.9%)	11.5%
Intercontinental Exchange Inc	2.6%	8.1%	17.4%	8.4%	1.1%	4.9%	2.2%
NAVER Corp	2.6%	(32.5%)	6.6%	13.7%	(8.7%)	5.1%	18.5%
Nasdaq Inc	2.6%	8.2%	19.3%	5.0%	(1.7%)	6.6%	0.2%
Plus500 Ltd	2.5%	66.9%	(55.7%)	6.3%	15.9%	(16.9%)	10.5%
Oracle Corp	2.5%	(3.0%)	26.3%	2.2%	(8.5%)	12.6%	(0.8%)
Rakuten Inc	2.3%	(26.9%)	54.2%	(7.1%)	(5.5%)	13.4%	(13.4%)
Samsung Electronics Co Ltd	2.3%	(24.7%)	12.2%	(1.9%)	(9.3%)	14.5%	(5.5%)
LINE Corp	2.3%	(16.2%)	(6.4%)	(4.4%)	(12.7%)	(4.3%)	14.5%
Nippon Gas Co Ltd	2.3%	0.2%	(20.6%)	8.0%	(9.3%)	6.9%	11.4%
Rio Tinto PLC	2.2%	(5.5%)	30.0%	(1.5%)	(1.6%)	8.2%	(7.4%)
Monex Group Inc	2.2%	20.7%	(10.1%)	(1.2%)	1.0%	15.1%	(15.0%)
NVIDIA Corp	2.1%	(30.8%)	26.7%	(6.7%)	(25.1%)	21.2%	2.7%
Intel Corp	2.1%	4.2%	9.1%	(0.4%)	(13.2%)	8.7%	5.6%
QUALCOMM Inc	2.0%	(7.6%)	31.2%	(14.3%)	(22.4%)	14.9%	(3.8%)
Barrick Gold Corp	1.6%	(5.4%)	21.0%	28.9%	(1.8%)	27.0%	3.3%
Metaps Inc	1.5%	(51.5%)	(21.2%)	(4.3%)	(4.2%)	11.3%	(10.3%)
Nexon GT Co Ltd	1.4%	(52.6%)	21.2%	(31.6%)	29.0%	(47.2%)	0.5%
Microsoft Corp	1.3%	20.8%	35.2%	4.7%	(5.0%)	8.3%	1.7%
SBI Holdings Inc/Japan	1.3%	(3.4%)	21.2%	8.0%	8.8%	6.8%	(7.1%)
International Business Machines Corp	1.3%	(22.5%)	33.5%	6.9%	(8.4%)	8.6%	7.5%
SoftBank Group Corp	1.2%	(16.1%)	57.0%	0.1%	(8.8%)	1.4%	8.3%
General Motors Co	1.2%	(15.0%)	23.1%	4.7%	(14.4%)	16.8%	4.7%
Amazon.com Inc	1.2%	28.4%	24.3%	(3.1%)	(7.9%)	6.7%	(1.4%)
Verizon Communications Inc	1.2%	11.3%	1.4%	(2.3%)	(5.0%)	5.1%	(2.2%)
Alumina Ltd	1.1%	(2.6%)	10.5%	1.9%	4.9%	(1.4%)	(1.4%)
Mitsubishi UFJ Financial Group Inc	1.1%	(31.7%)	1.1%	(2.0%)	(6.3%)	2.8%	1.7%
Signature Bank/New York NY	1.1%	(24.3%)	25.6%	(3.1%)	(13.3%)	5.5%	5.9%
Ceres Inc/Japan	1.0%	(25.0%)	(2.5%)	(21.0%)	(15.3%)	9.8%	(15.0%)
Alcoa Corp	0.9%	(50.7%)	(15.4%)	(15.7%)	(20.6%)	10.5%	(3.9%)
Aluminum Corp of China Ltd	0.9%	(55.0%)	2.8%	(15.5%)	(8.1%)	(1.4%)	(6.7%)
Norsk Hydro ASA	0.9%	(38.9%)	(20.0%)	(16.1%)	(15.3%)	2.1%	(3.1%)
Riot Blockchain Inc	0.4%	(94.7%)	45.7%	(58.3%)	(38.5%)	(3.1%)	(29.9%)
<b>Elwood Blockchain Index</b>		<b>(20.5%)</b>	<b>19.1%</b>	<b>3.3%</b>	<b>(4.7%)</b>	<b>6.0%</b>	<b>2.2%</b>
<b>MSCI World Net Total Return</b>		<b>(8.7%)</b>	<b>17.6%</b>	<b>0.9%</b>	<b>(5.8%)</b>	<b>6.6%</b>	<b>0.5%</b>
<i>New Index Constituents (As at August 2019)</i>							
Facebook		(25.7%)	48.2%	0.4%	(8.2%)	8.8%	0.6%
Hut 8			74.4%	57.5%	37.4%	26.9%	(9.7%)

(Source: Bloomberg, Elwood)

(Notes: Weighting as at 29 July 2019, performance is total return in USD)

## Valuation data

	2018 Q4	2019 Q1	2019 Q2
<b>Elwood Blockchain Global Equity Index</b>			
PE	13.0	15.1	14.4
Price/Book	2.2	2.5	2.5
EV/Sales	1.3	1.6	1.8
Dividend Yield	3.0%	2.3%	2.9%

## MSCI World Net Total Return Index

	2018 Q4	2019 Q1	2019 Q2
PE	15.0	16.8	17.6
Price/Book	2.1	2.4	2.4
EV/Sales	1.8	2.0	2.1
Dividend Yield	2.7%	2.5%	2.5%

(Source: Bloomberg, Elwood)

(Notes: PE ratio based on positive earnings only, sales, profits and dividends over last rolling 12 months. All figures in USD)

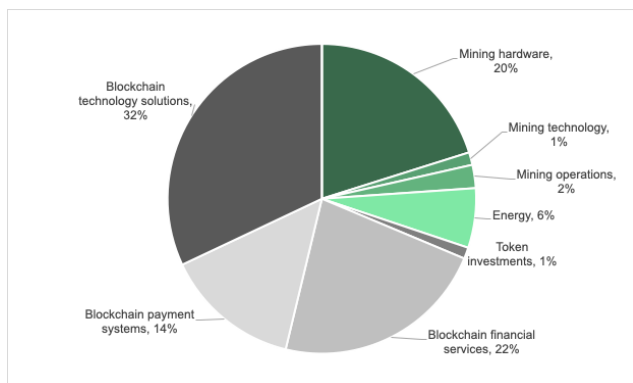
## Changes to Earnings Estimates in 2019



(Source: Bloomberg, Elwood)

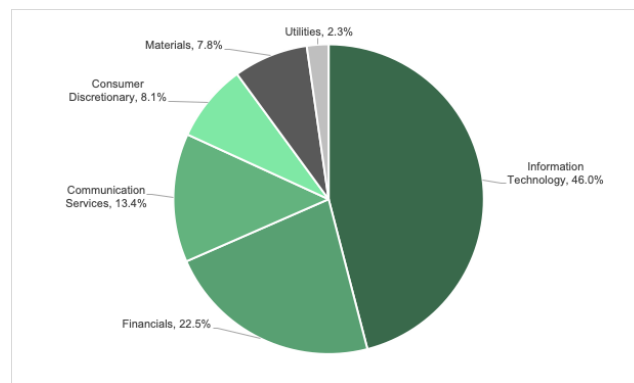
(Notes: Consensus earnings for 2019 in USD, Rebased to 100 as at January 2019)

## Index composition by blockchain business area



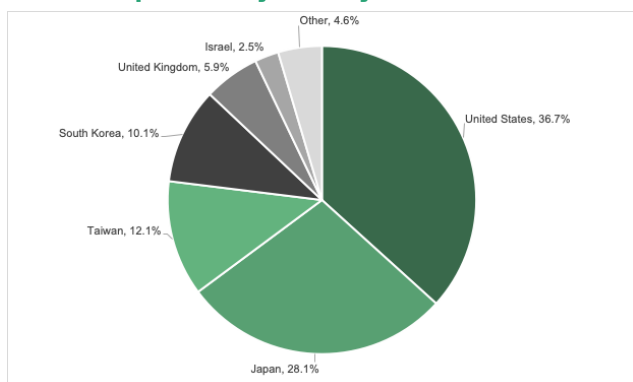
(Source: Bloomberg, Elwood)  
(Note: Data as at July 2019. All figures in USD)

## Index composition by sector (GICS)



(Source: Bloomberg, Elwood)  
(Note: Data as at July 2019. All figures in USD)

## Index composition by country



(Source: Bloomberg, Elwood)  
(Note: Data as at July 2019. All figures in USD)

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