

# PORTFOLIO GAME : THE ANALYSIS

## S&P 500 :



## Technical Signals :-

- Candlestick patterns -
  - Recent day candlesticks show a seller dominated market sentiment.
  - 3 month analysis shows markets have been rallying with small breaks.
  - Support and resistance at 2750 and 2890.
- Bollinger Bands -
  - Index was near the LOWER band recently, last 2 week's data shows the index has been testing the 20 day moving average but seems unlikely to break above it. Expecting the MA to act as resistance.
  - Ample volatility band width, not expecting any violent movements for the coming week.

- MA 50 -
  - Indicating a sell signal upcoming as it has widened and will start breaking towards the bollinger middle band.
- MACD -
  - Indicating a sell signal as recent as 30th, buy signal apparent. Width seems to be decreasing, indicating a further uptrend.
- RSI -
  - RSI levels at low level line, markets seem oversold. A decreasing trend shows buying opportunity.

### **Fundamental signals :-**

- Open-Interest -
  - Shows resistance near 2860-2875 levels for Monday
  - Shows support near 2780-2800 levels
- On Thursday, the markets will be looking for a marked fall in weekly initial jobless claims figures ahead of Friday's data deluge, testing it's risk appetite. Expecting macro trends to drag S&P down, before recovering.
- S&P500 VIX is up, indicating increased tensions due to China-US tensions
- Expecting markets to be in discount, after rallying the best month in April. Though diversified index means small investment can't hurt in long terms.
- Apple, Microsoft, Amazon and Facebook collectively make up more than 10 percent of the S&P 500. Easing rules might help Amazon rally after sharp 8% earnings fall. Tech/financial is expected to recover.

## Nasdaq 100 :



### Technical Signals :-

- Candlestick patterns -
  - Recent day candlesticks show a seller dominated market sentiment.
  - Support and resistance at 8480 and 8970.
- Bollinger Bands -
  - Index was near the LOWER band recently, last 2 week's data shows the index has been testing the 20 day moving average but seems unlikely to break above it. Expecting the MA to act as resistance.
  - Ample volatility band width, not expecting any violent movements for the coming week.
- MA 50 -
  - Indicating a BUY signal as MA50 has widened.
- MACD -
  - Indicating a sell signal as recent as 30th, buy signal apparent. Width seems to be decreasing, indicating a further uptrend.

- RSI -
  - RSI levels below low level line, markets seem oversold. A decreasing trend shows buying opportunity.

## Fundamental signals :-

### Top 20 for nasdaq

Components of the Nasdaq 100						
#	Company	Symbol	Weight	Price	Chg	% Chg
1	Microsoft Corp	MSFT	11.769	▲ 174.60	0.03	(0.02%)
2	Apple Inc	AAPL	11.099	▲ 290.40	1.33	(0.46%)
3	Amazon.com Inc	AMZN	10.634	▼ 2,271.00	-15.04	(-0.66%)
4	Facebook Inc	FB	4.252	▲ 202.79	0.52	(0.26%)
5	Alphabet Inc	GOOGL	4.001	▲ 1,321.00	3.68	(0.28%)
6	Alphabet Inc	GOOG	3.971	▲ 1,324.90	4.29	(0.32%)
7	Intel Corp	INTC	2.825	▲ 57.53	0.06	(0.10%)
8	Netflix Inc	NFLX	2.029	▲ 415.60	0.33	(0.08%)
9	PepsiCo Inc	PEP	2.025	▼ 130.07	-0.07	(-0.05%)
10	Cisco Systems Inc	CSCO	1.979	▲ 41.01	0.09	(0.22%)
11	NVIDIA Corp	NVDA	1.97	▲ 283.30	0.52	(0.18%)
12	Comcast Corp	CMCSA	1.883	▲ 37.35	0.37	(1.00%)
13	Adobe Inc	ADBE	1.882	▼ 343.62	-0.22	(-0.06%)
14	PayPal Holdings Inc	PYPL	1.589	▲ 121.80	1.19	(0.99%)
15	Tesla Inc	TSLA	1.585	▲ 707.01	5.69	(0.81%)
16	Amgen Inc	AMGN	1.554	▲ 231.60	0.62	(0.27%)
17	Costco Wholesale Corp	COST	1.474	▲ 301.92	0.00	(0.00%)
18	Broadcom Inc	AVGO	1.195	▼ 259.55	-0.15	(-0.06%)
19	Texas Instruments Inc	TXN	1.194	▲ 110.30	0.59	(0.54%)
20	Gilead Sciences Inc	GILD	1.169	▲ 81.75	1.80	(2.25%)

- Gilead's Remdiscivir given FDA approval. Tech stocks expected to recover.
- Elon Musk's tweet induced weakness in TESLA might continue.
- Amgen beats revenue. Amazon induced weakness in Nasdaq expected to recover.
- Limited options data to conclude.
- Huge spike in VIX for NSDQ100 is worrisome.

# DAX 30 :

10,861.64 -246.10 (-2.22%)  
At close: 30 April 5:44PM CEST



## Technical Signals :-

- Candlestick patterns -
  - Recent day candlesticks show a BUYER dominated market sentiment.
  - Support and resistance at 10830 and 10920.
  - DAX has been in increasing trend last month.
- Bollinger Bands -
  - Index was near the LOWER band recently, last 2 week's data shows the index has been testing the 20 day moving average but seems unlikely to break above it. Expecting the MA to act as resistance.
  - Ample volatility band width, not expecting any violent movements for the coming week.
- MA 50 -
  - Indicating a BUY signal as MA50 has widened.
  - The MA50 has moved beyond the bollinger band, expecting sudden upticks.

- MACD -
  - No clear signal on MACD.
- RSI -
  - RSI levels just around the mid line. Upside shows buying opportunity.

**Fundamental analysis:-**

- Expect March retail sales figures from the Eurozone and German factory orders to also be brushed aside on Thursday.
- For the EUR, a continued downward trend in new coronavirus cases is a must. This, coupled a further easing in lockdown measures, would provide support in the week.
- EUR/US was up indicating a strong euro.
- ECB intervention will be a major influence on the index, expecting support after somewhat lacklustre confidence. Employing the do not fight the FED policy.
- Ease in lockdowns should help in sales of cars companies, Bayer may see an upward movement on cure hopes. Allianz should be a gainer as well.
- DAX VIX is also up 7%, indicating risk.

# NIKKEI 225 :



## Technical Signals :-

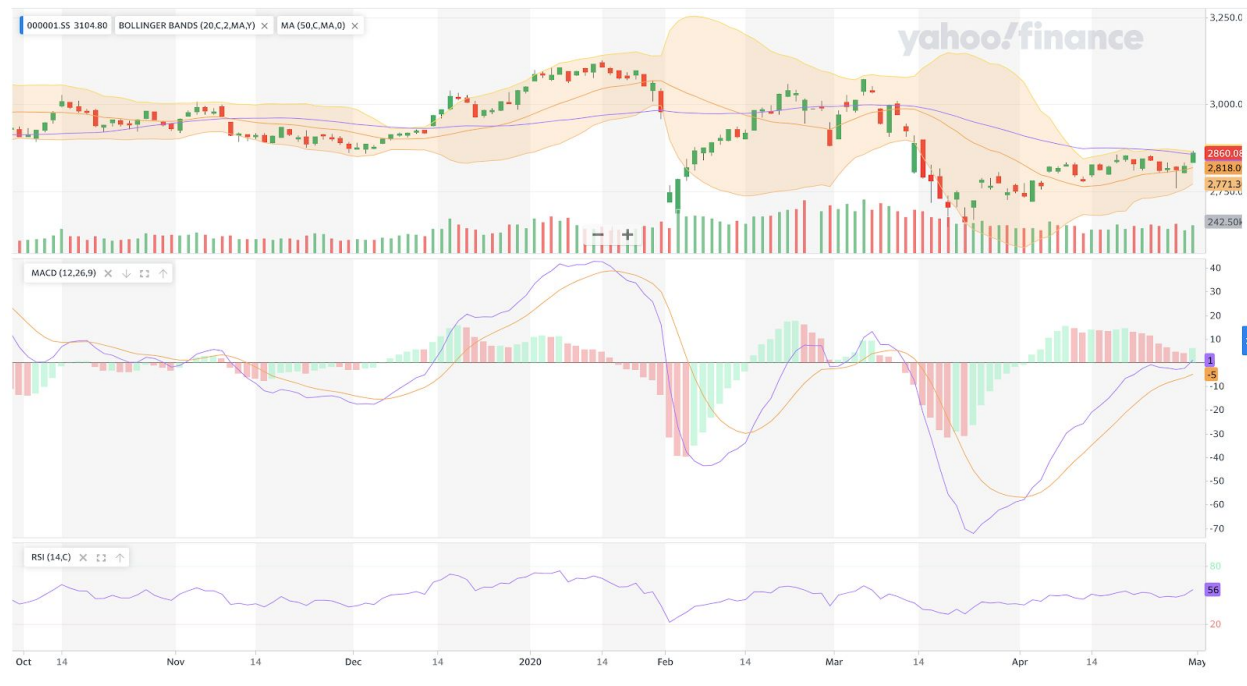
- Candlestick patterns -
  - Recent day candlesticks show a SELLER dominated market sentiment.
  - Support and resistance at 18820 and 19740.
  - N225 has been in increasing trend last month, and a severe discount from 6 month levels.
- Bollinger Bands -
  - Index was near the UPPER band recently, expecting to break the MA levels as support has been strong, with decreasing highs.
  - Ample volatility band width, not expecting any violent movements for the coming week.
- MA 50 -
  - Indicating a strong SELL signal as MA50 has crossed the middle bollinger band.

- MACD -
  - MACD indicating a weak sell signal.
- RSI -
  - No clear signal on RSI

### Fundamental analysis:-

- Financial markets were seemingly underwhelmed as the Bank of Japan attempted to boost stimulus efforts in the face of headwinds from the global Covid-19 outbreak. Expecting further breaking.
- JPY YEN is up and USD/JPY at multi-week low.
- Japanese extended holiday will accumulate positions. N225 might track lower due to US tensions and pressure on manufacturing industries.

### SHCOMP :





## Technical Signals :-

- Candlestick patterns -
  - Recent day candlesticks show a BUYER dominated market sentiment.
  - Support and resistance at 2856 and 2864..
  - Increasing trend but very narrow bands.
- Bollinger Bands -
  - Index was near the UPPER band recently, expecting sideways movement.
  - Very low volatility band width, expecting violent movements for the coming weeks.
- MA 50 -
  - Unclear indication.
- MACD -
  - MACD indicating a weak buy signal.
- RSI -
  - Towards the middle, neutral signal.

## HYG/TLT :

- High yield bonds are risky as these are sub-investment grade bonds, High credit and credit defaults on the horizon.
- Volatility to remain and not expected to move much as companies are in dire need of cash and we have seen a lot of downgrades lately.
- 20 year treasury bonds are at all time low yields and not looking to ease this week, hence not much movement expected.

## Crude/Gold Index :

- Crude is starting to rally back up, but won't break important levels until storage woes and demand woes are resolved. Hence this week abstaining from oil investments as it is prone to high volatility.

- Investment in gold will be as a mini hedge against sudden market movements, using its safe haven status.

## Markowitz Portfolio

Output of the efficient frontier portfolio I implemented using the last 6 months daily prices.

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In [9]: display_simulated_ef_with_random(mean_returns, cov_matrix, num_portfolios, risk_free_rate)
```

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Maximum Sharpe Ratio Portfolio Allocation

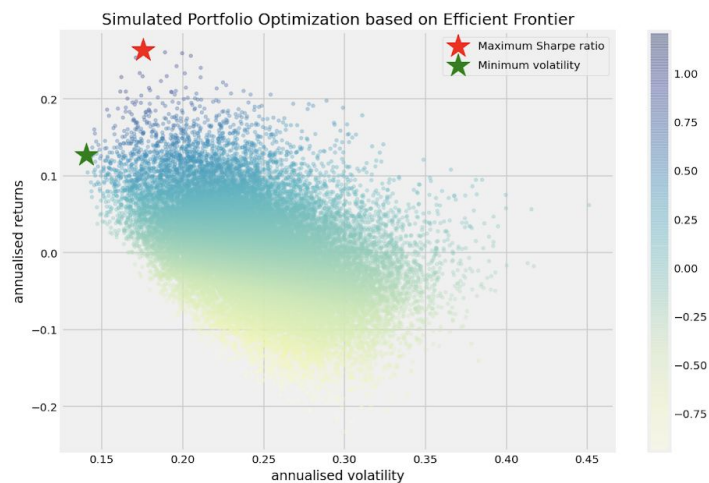
Annualised Return: 0.26  
Annualised Volatility: 0.18

	^GSPC	^IXIC	^N225	000001.SS	^GDAXI	HYG	TLT
allocation	5.78	16.34	8.79	1.78	4.74	8.02	54.57

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Minimum Volatility Portfolio Allocation

Annualised Return: 0.13  
Annualised Volatility: 0.14

	^GSPC	^IXIC	^N225	000001.SS	^GDAXI	HYG	TLT
allocation	1.31	7.97	4.75	28.58	1.05	23.35	32.99



- Treasury bonds are safe bets wrt volatility and risk.
- SHCOMP has low risks
- Nikkei has fairly low volatility
- S&P500 is highly volatile.

```
In [13]: display_ef_with_selected(mean_returns, cov_matrix, risk_free_rate)
```

#### Maximum Sharpe Ratio Portfolio Allocation

Annualised Return: 0.41  
Annualised Volatility: 0.2

	^GSPC	^IXIC	^N225	000001.SS	^GDAXI	HYG	TLT
allocation	0.0	33.19	0.0	0.0	0.0	0.0	66.81

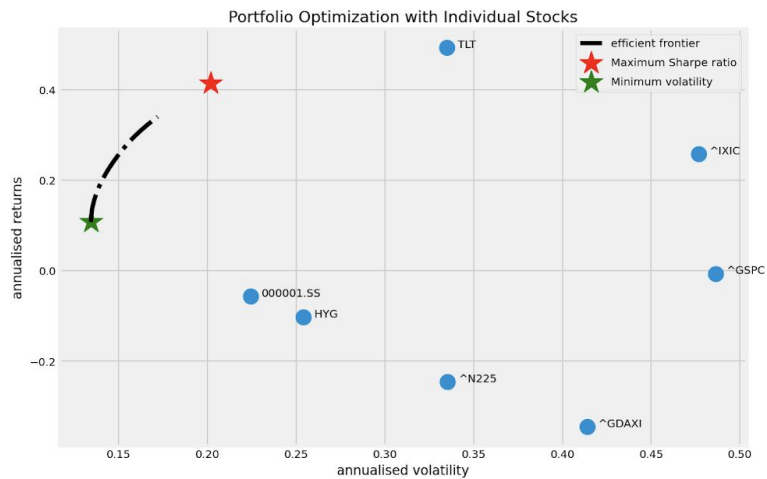
#### Minimum Volatility Portfolio Allocation

Annualised Return: 0.11  
Annualised Volatility: 0.13

	^GSPC	^IXIC	^N225	000001.SS	^GDAXI	HYG	TLT
allocation	0.0	0.0	0.0	36.27	0.0	31.24	32.5

#### Individual Stock Returns and Volatility

^GSPC : annuaised return -0.01 , annuaised volatility: 0.49  
^IXIC : annuaised return 0.26 , annuaised volatility: 0.48  
^N225 : annuaised return -0.25 , annuaised volatility: 0.34  
000001.SS : annuaised return -0.06 , annuaised volatility: 0.22  
^GDAXI : annuaised return -0.35 , annuaised volatility: 0.41  
HYG : annuaised return -0.1 , annuaised volatility: 0.25  
TLT : annuaised return 0.49 , annuaised volatility: 0.34



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