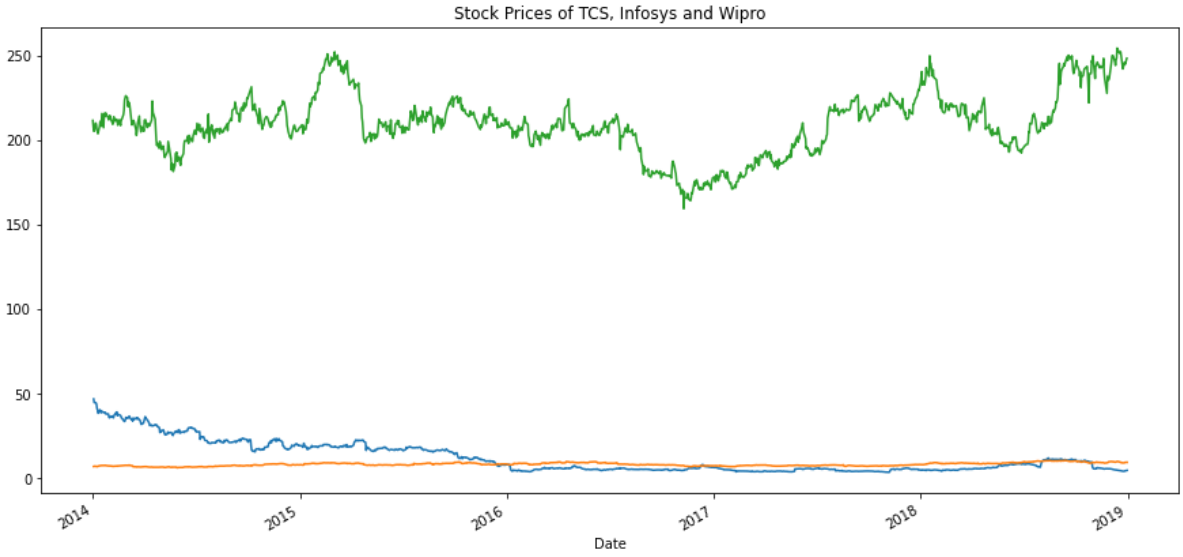
In [9]:
```
import pandas as pd
import datetime
import numpy as np
import matplotlib.pyplot as plt
from pandas.plotting import scatter_matrix
#!pip install yfinance
import yfinance as yf
#%matplotlib inline
```

In [7]:
```
start = "2014-01-01"
end = '2019-1-01'
tcs = yf.download('TCS',start,end)
infy = yf.download('INFY',start,end)
wipro = yf.download('WIPRO.NS',start,end)
```

```
[**********100%**********]  1 of 1 completed
[**********100%**********]  1 of 1 completed
[**********100%**********]  1 of 1 completed
```

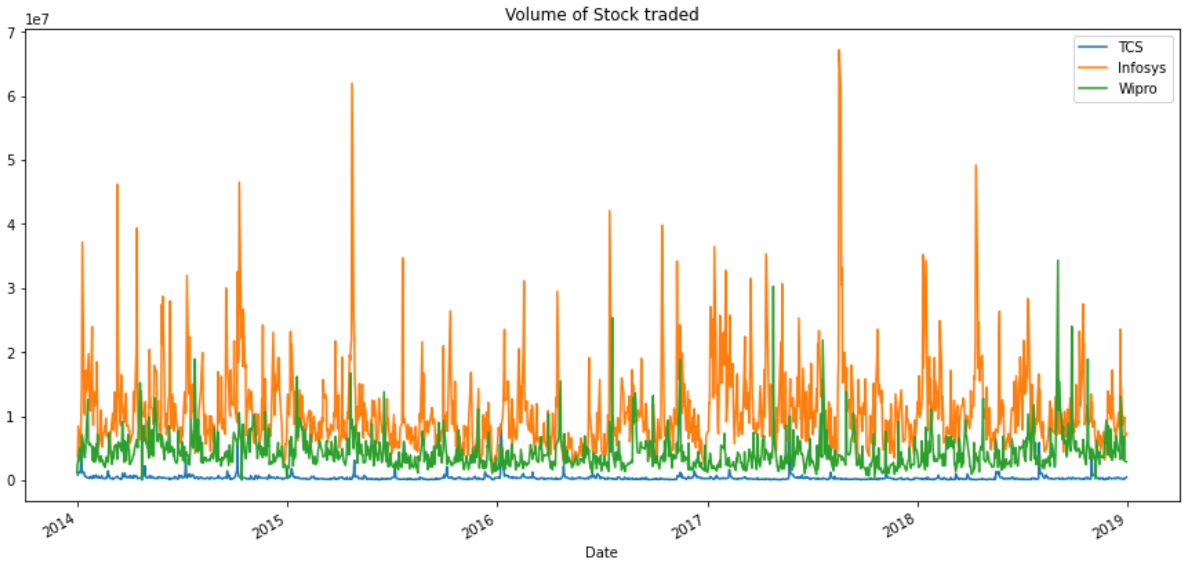
In [8]:
```
tcs['Open'].plot(label = 'TCS', figsize = (15,7))
infy['Open'].plot(label = "Infosys")
wipro['Open'].plot(label = 'Wipro')
plt.title('Stock Prices of TCS, Infosys and Wipro')
```

Out[8]:
```
Text(0.5, 1.0, 'Stock Prices of TCS, Infosys and Wipro')
```



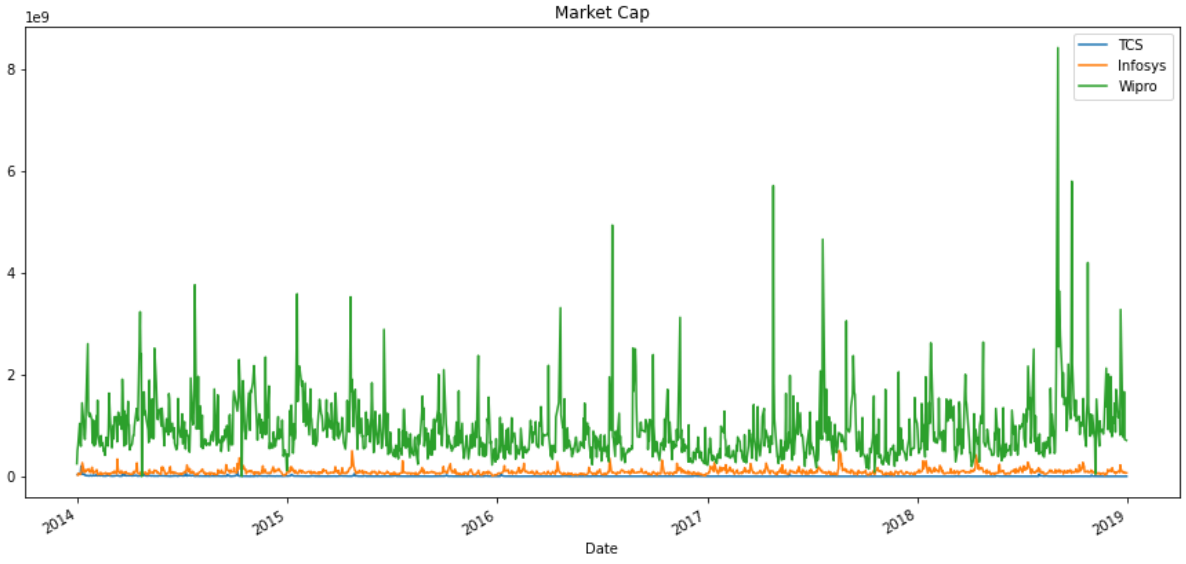
In [2]:
```
tcs['Volume'].plot(label = 'TCS', figsize = (15,7))
infy['Volume'].plot(label = "Infosys")
wipro['Volume'].plot(label = 'Wipro')
plt.title('Volume of Stock traded')
plt.legend()
```

Out[2]:
```
<matplotlib.legend.Legend at 0x18a4c7bf070>
```



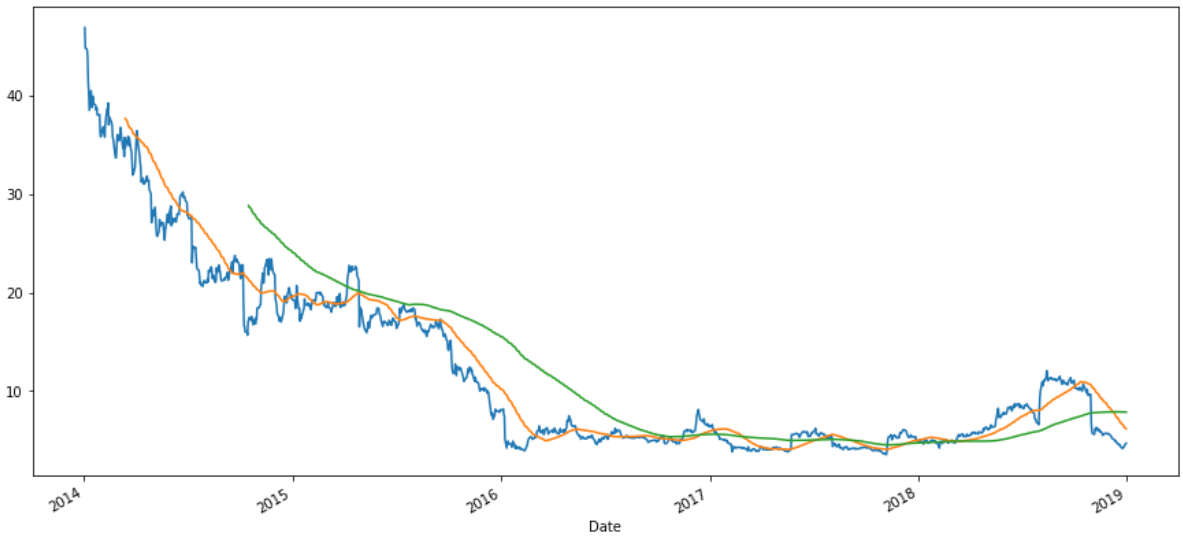
In [3]:
```
#Market Capitalisation
tcs['MarktCap'] = tcs['Open'] * tcs['Volume']
infy['MarktCap'] = infy['Open'] * infy['Volume']
wipro['MarktCap'] = wipro['Open'] * wipro['Volume']
tcs['MarktCap'].plot(label = 'TCS', figsize = (15,7))
infy['MarktCap'].plot(label = 'Infosys')
wipro['MarktCap'].plot(label = 'Wipro')
plt.title('Market Cap')
plt.legend()
```

Out[3]:
```
<matplotlib.legend.Legend at 0x18a4e8e8610>
```



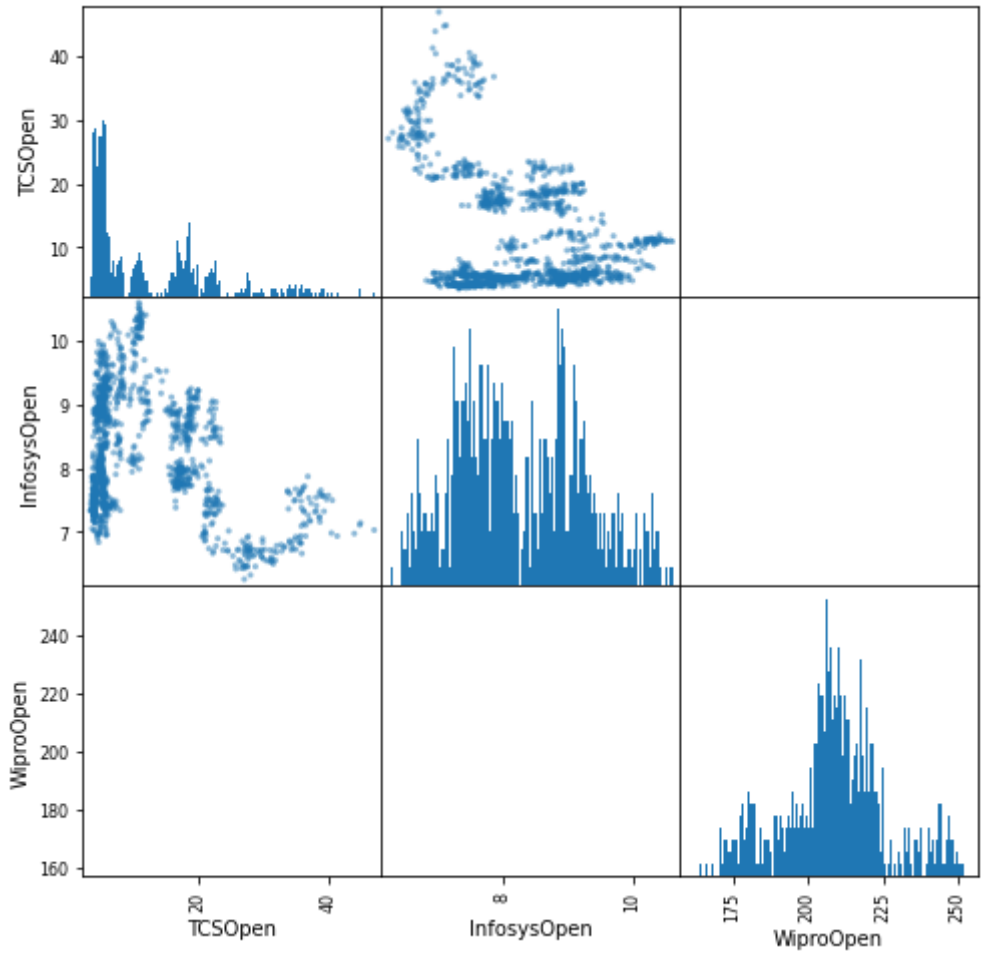
In [4]:
```
tcs['MA50'] = tcs['Open'].rolling(50).mean()
tcs['MA200'] = tcs['Open'].rolling(200).mean()
tcs['Open'].plot(figsize = (15,7))
tcs['MA50'].plot()
tcs['MA200'].plot()
```

Out[4]:
```
<AxesSubplot:xlabel='Date'>
```



In [5]:
```
data = pd.concat([tcs['Open'],infy['Open'],wipro['Open']],axis = 1)
data.columns = ['TCSOpen','InfosysOpen','WiproOpen']
scatter_matrix(data, figsize = (8,8), hist_kwds= {'bins':250})
```

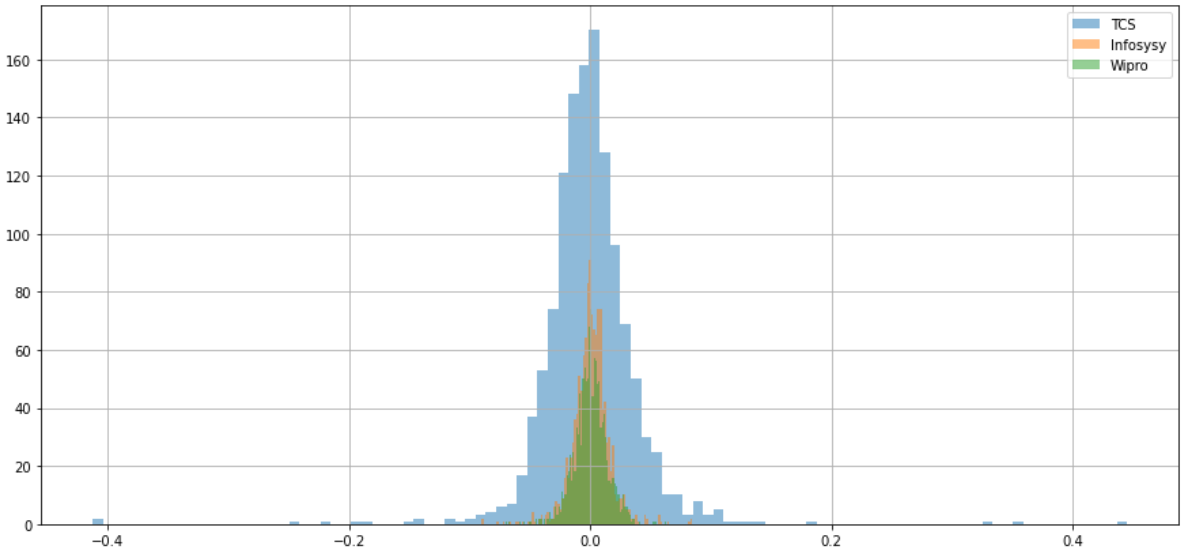
Out[5]:
```
array([[<AxesSubplot:xlabel='TCSOpen', ylabel='TCSOpen'>,
        <AxesSubplot:xlabel='InfosysOpen', ylabel='TCSOpen'>,
        <AxesSubplot:xlabel='WiproOpen', ylabel='TCSOpen'>],
       [<AxesSubplot:xlabel='TCSOpen', ylabel='InfosysOpen'>,
        <AxesSubplot:xlabel='InfosysOpen', ylabel='InfosysOpen'>,
        <AxesSubplot:xlabel='WiproOpen', ylabel='InfosysOpen'>],
       [<AxesSubplot:xlabel='TCSOpen', ylabel='WiproOpen'>,
        <AxesSubplot:xlabel='InfosysOpen', ylabel='WiproOpen'>,
        <AxesSubplot:xlabel='WiproOpen', ylabel='WiproOpen'>]],
      dtype=object)
```



In [6]:
```
#Volatility
```

```
tcs['returns'] = (tcs['Close']/tcs['Close'].shift(1)) -1
infy['returns'] = (infy['Close']/infy['Close'].shift(1))-1
wipro['returns'] = (wipro['Close']/wipro['Close'].shift(1)) - 1
tcs['returns'].hist(bins = 100, label = 'TCS', alpha = 0.5, figsize = (15,7))
infy['returns'].hist(bins = 100, label = 'Infosysy', alpha = 0.5)
wipro['returns'].hist(bins = 100, label = 'Wipro', alpha = 0.5)
plt.legend()
```

Out[6]: <matplotlib.legend.Legend at 0x18a4faa5540>



In [ ]: