study_on_price

April 13, 2025

[ ]:
```
import yfinance as yf
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt


end_date = pd.Timestamp.now().strftime('%Y-%m-%d')
start_date =(pd.Timestamp.now() - pd.DateOffset(years=30)).strftime('%Y-%m-%d')
```

[39]:
```
data = yf.download("AAPL",start=start_date,end=end_date)
```

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[**********************100%**********************]  1 of 1 completed
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[40]:
```
data['Log2_close'] = np.log2(data['Close'])

plt.figure(figsize=(12,6))
plt.plot(data.index,data['Log2_close'],color='blue',linewidth=1.5)
plt.title('AAPL Log2 closing Price (1995-2025)',fontsize=14)
plt.xlabel('Date',fontsize = 12)
plt.ylabel('Log_Close Price',fontsize = 12)
plt.grid(True,linestyle = '--',alpha = 0.7)
plt.show()
```

[41]:
```
data2 = yf.download("BABA",start=start_date,end=end_date)
```

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[**********************100%**********************]  1 of 1 completed
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[42]:
```
data3 = yf.download("PDD",start=start_date,end=end_date)
```

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[**********************100%**********************]  1 of 1 completed
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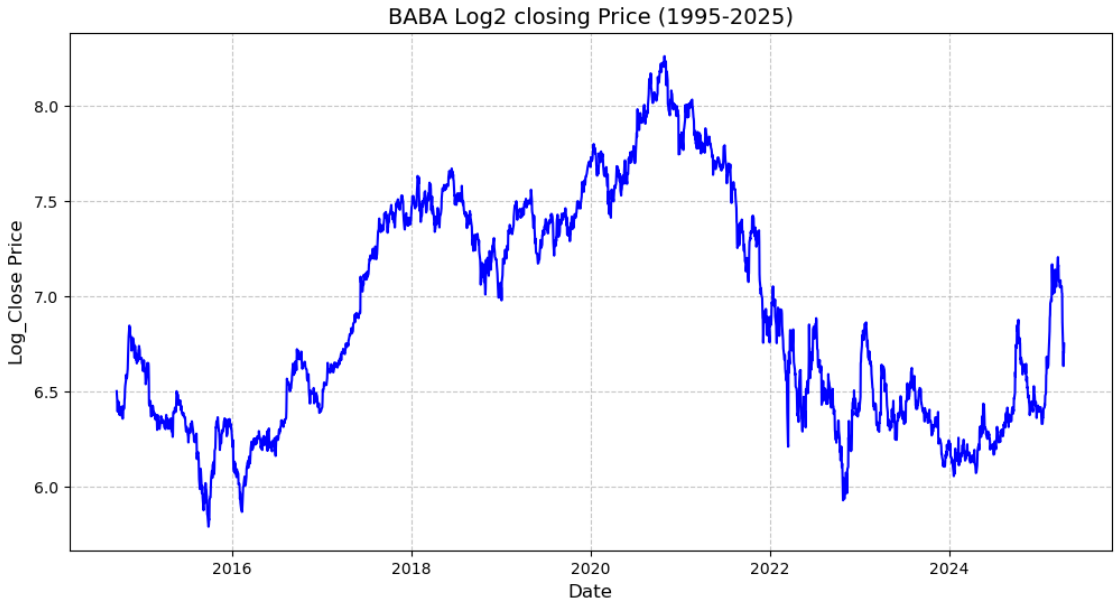
[43]:
```
data2['Log2_close'] = np.log2(data2['Close'])
```

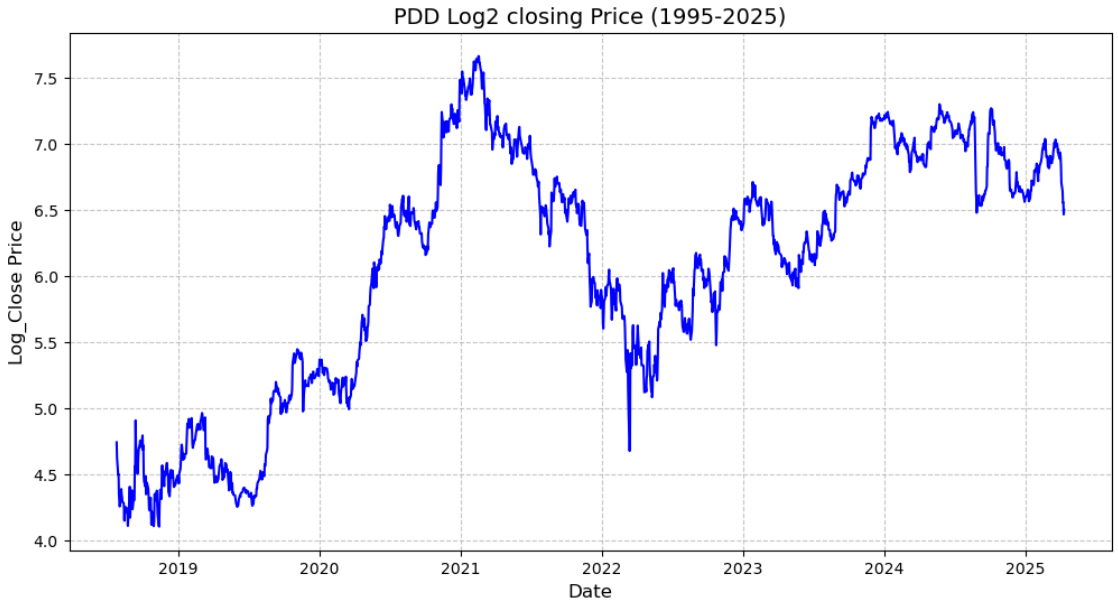
[49]:
```
plt.figure(figsize=(12,6))
plt.plot(data2.index,data2['Log2_close'],color='blue',linewidth=1.5)
plt.title('BABA Log2 closing Price (1995-2025)',fontsize=14)
plt.xlabel('Date',fontsize = 12)
plt.ylabel('Log_Close Price',fontsize = 12)
plt.grid(True,linestyle = '--',alpha = 0.7)
plt.show()
```



[ ]:

[44]:
```
data3['Log2_close'] = np.log2(data3['Close'])
```

[47]:
```
plt.figure(figsize=(12,6))
plt.plot(data3.index,data3['Log2_close'],color='blue',linewidth=1.5)
plt.title('PDD Log2 closing Price (1995-2025)',fontsize=14)
plt.xlabel('Date',fontsize = 12)
plt.ylabel('Log_Close Price',fontsize = 12)
plt.grid(True,linestyle = '--',alpha = 0.7)
plt.show()
```



[55]:
```
spx = yf.download('^GSPC',start='1990-01-01',end = '2025-04-13')
```

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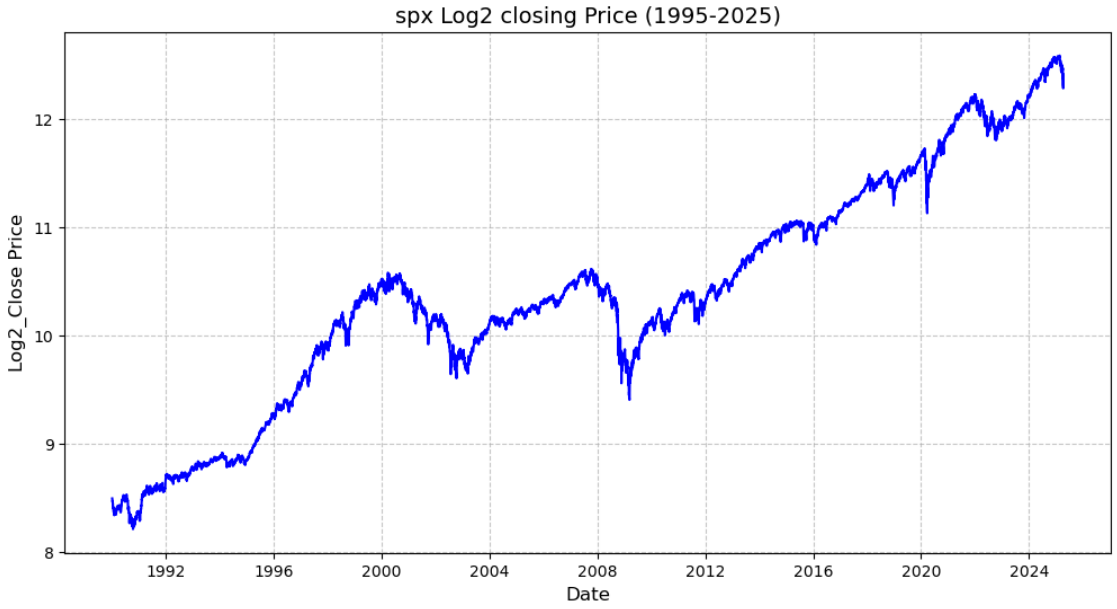
[**********************100%**********************]  1 of 1 completed
```

[56]:
```
spx['Log2_close'] = np.log2(spx['Close'])
```

[57]:
```
plt.figure(figsize=(12,6))
plt.plot(spx.index,spx['Log2_close'],color='blue',linewidth=1.5)
plt.title('spx Log2 closing Price (1995-2025)',fontsize=14)
plt.xlabel('Date',fontsize = 12)
plt.ylabel('Log2_Close Price',fontsize = 12)
plt.grid(True,linestyle = '--',alpha = 0.7)
plt.show()
```


spx Log2 closing Price (1995-2025)
Log2_Close Price
Date
12
11
10
9
8
1992
1996
2000
2004
2008
2012
2016
2020
2024