Impact of CPI on short term Index prices

Agenda

- Data discovery
- Goal
- Process
- Conclusion

Data Discovery:

Bloomberg is a financial data vendor

Both datasets were pulled from the Bloomberg Terminal using proprietary API.

Both datasets had to be cleaned/modified for the particular analysis in python using pandas.

	Date Time	Event	Period	Surv(M)	Actual	Prior	Revised
24)	05/22 14:00	FOMC Meeting Minutes	May 1	--	--	--	--
25)	05/23 08:30	Chicago Fed Nat Activity Index	Apr	0.13	--	0.15	--
26)	05/23 08:30	Initial Jobless Claims	May 18	220k	--	222k	--
27)	05/23 08:30	Continuing Claims	May 11	1793k	--	1794k	--
28)	05/23 09:45	S&P Global US Manufacturing PMI	May P	49.9	--	50.0	--
29)	05/23 09:45	S&P Global US Services PMI	May P	51.2	--	51.3	--
30)	05/23 09:45	S&P Global US Composite PMI	May P	51.2	--	51.3	--
31)	05/23 10:00	New Home Sales	Apr	678k	--	693k	--
32)	05/23 10:00	New Home Sales MoM	Apr	-2.2%	--	8.8%	--
33)	05/23 11:00	Kansas City Fed Manf. Activity	May	-7	--	-8	--
34)	05/24 08:30	Durable Goods Orders	Apr P	-0.8%	--	2.6%	0.9%
35)	05/24 08:30	Durables Ex Transportation	Apr P	0.1%	--	0.2%	0.0%
36)	05/24 08:30	Cap Goods Orders Nondef Ex Air	Apr P	0.1%	--	0.1%	-0.2%
37)	05/24 08:30	Cap Goods Ship Nondef Ex Air	Apr P	0.1%	--	0.0%	-0.1%
38)	05/24 09:00	Bloomberg May United States Economic Survey					
39)	05/24 10:00	U. of Mich. Sentiment	May F	67.7	--	67.4	--
40)	05/24 10:00	U. of Mich. Current Conditions	May F	68.8	--	68.8	--
41)	05/24 10:00	U. of Mich. Expectations	May F	67.0	--	66.5	--
42)	05/24 10:00	U. of Mich. 1 Yr Inflation	May F	3.4%	--	3.5%	--
43)	05/24 10:00	U. of Mich. 5-10 Yr Inflation	May F	3.1%	--	3.1%	--
44)	05/24 11:00	Kansas City Fed Services Activity	May	--	--	9	--
45)	05/28 09:00	House Price Purchase Index QoQ	1Q	--	--	1.5%	--
46)	05/28 09:00	FHFA House Price Index MoM	Mar	0.5%	--	1.2%	--
47)	05/28 09:00	S&P CoreLogic CS 20-City MoM SA	Mar	0.30%	--	0.61%	--
48)	05/28 09:00	S&P CoreLogic CS US HPI YoY NSA	Mar	--	--	6.38%	--

Price History:

- Pulled using the Bloomberg API
- Each S&P 500 member is categorized into one of the sector indices.
- Designed to replicate performance of a particular industry.
- Each member's price history was pulled for the last 2 years on a daily basis.


SPX Index Display Alert Export

S&P 500 ECO SECTORS IDX

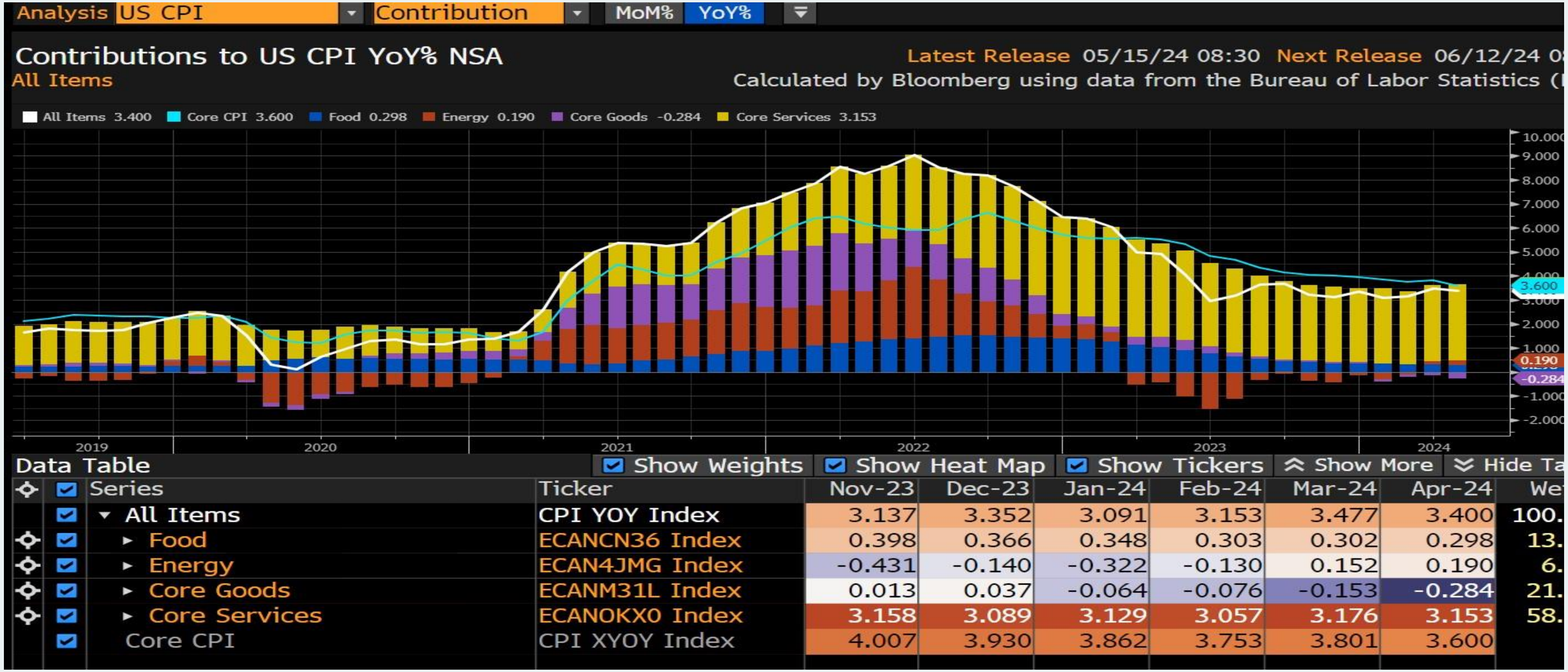
Members | Historical Summary | Data Access

3) Stats Group by Index Sectors 4) Fields As of 05/22/2024

Ticker	Name	Weight (%)	Subgroup Weight
S5INFT	S&P 500 Information Technology Sector GICS Level 1 Index	30.348175	
S5FINL	S&P 500 Financials Sector GICS Level 1 Index	12.933646	
S5HLTH	S&P 500 Health Care Sector GICS Level 1 Index	12.151818	
S5COND	S&P 500 Consumer Discretionary Sector GICS Level 1 Index	9.905481	
S5TELS	S&P 500 Communication Services Sector GICS Level 1 Index	9.275041	
S5INDU	S&P 500 Industrials Sector GICS Level 1 Index	8.624859	
S5CONS	S&P 500 Consumer Staples Sector GICS Level 1 Index	6.038542	
S5ENRS	S&P 500 Energy Sector GICS Level 1 Index	3.798420	
S5UTIL	S&P 500 Utilities Sector GICS Level 1 Index	2.444523	
S5MATR	S&P 500 Materials Sector GICS Level 1 Index	2.304396	
S5RLST	S&P 500 Real Estate Sector GICS Level 1 Index	2.175100	

Goal:

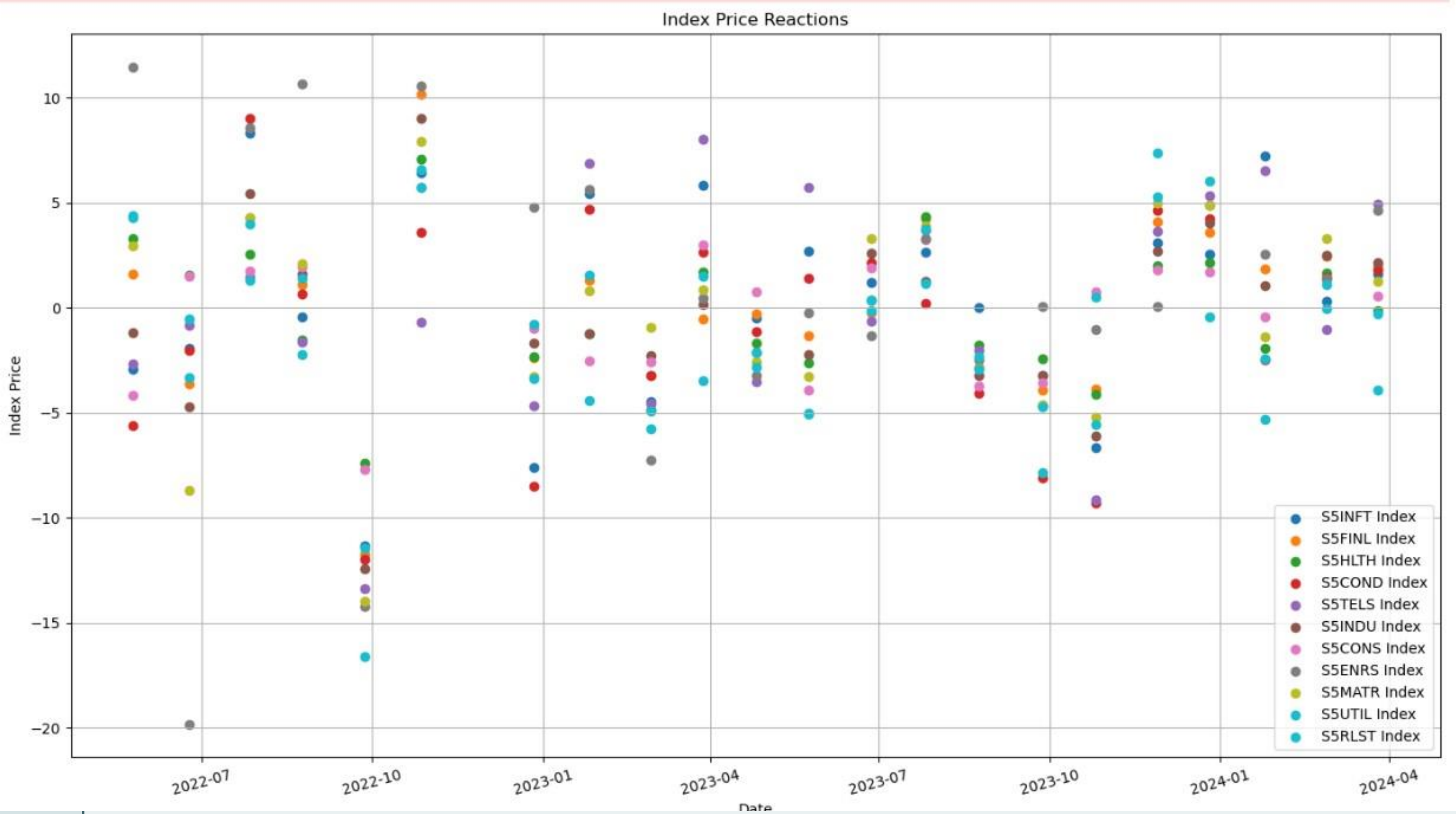
- Understand which of the indices was most impacted in terms of price by the CPI releases over the past 2 years.
- Answer the question – Which industries does the market think are most impacted by inflation in the short term (2 weeks post CPI report)?



Series	Ticker	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	We
All Items	CPI YOY Index	3.137	3.352	3.091	3.153	3.477	3.400	100.
Food	ECANCN36 Index	0.398	0.366	0.348	0.303	0.302	0.298	13.
Energy	ECAN4JMG Index	-0.431	-0.140	-0.322	-0.130	0.152	0.190	6.
Core Goods	ECANM31L Index	0.013	0.037	-0.064	-0.076	-0.153	-0.284	21.
Core Services	ECANOKX0 Index	3.158	3.089	3.129	3.057	3.176	3.153	58.
Core CPI	CPI XYOY Index	4.007	3.930	3.862	3.753	3.801	3.600	

Process :

- Filter Economics dataset to only include CPI
- Clean date format for price history & economics data. (Make them match)
- Calculate the price return for each index upon announcement of the CPI release.
- Compare the returns of each index 2 weeks after CPI release to the rolling 2 week returns for the entire 2-year period.



Index Price Reactions
Index Price
Date
10
5
0
−5
−10
−15
−20
2022-07
2022-10
2023-01
2023-04
2023-07
2023-10
2024-01
2024-04
S5INFT Index
S5FINL Index
S5HLTH Index
S5COND Index
S5TELS Index
S5INDU Index
S5CONS Index
S5ENRS Index
S5MATR Index
S5UTIL Index
S5RLST Index

Conclusion

- The index which had its price most impacted by a CPI report was ENERGY!
- Energy sector had the highest maximum return, the lowest return, and largest standard deviation when considering all CPI reports.
- Comparing to all other periods, The energy sector returns are still the most volatile – but to a much lesser extent.
- This can be explained by a combination of direct and indirect factors. Directly, inflation raises the cost of raw materials, labor, and capital investment needed for energy production more than any other industry.

Returns around Inflation Report: