

Finance in Montana

William Igoe

Jan 28 2021



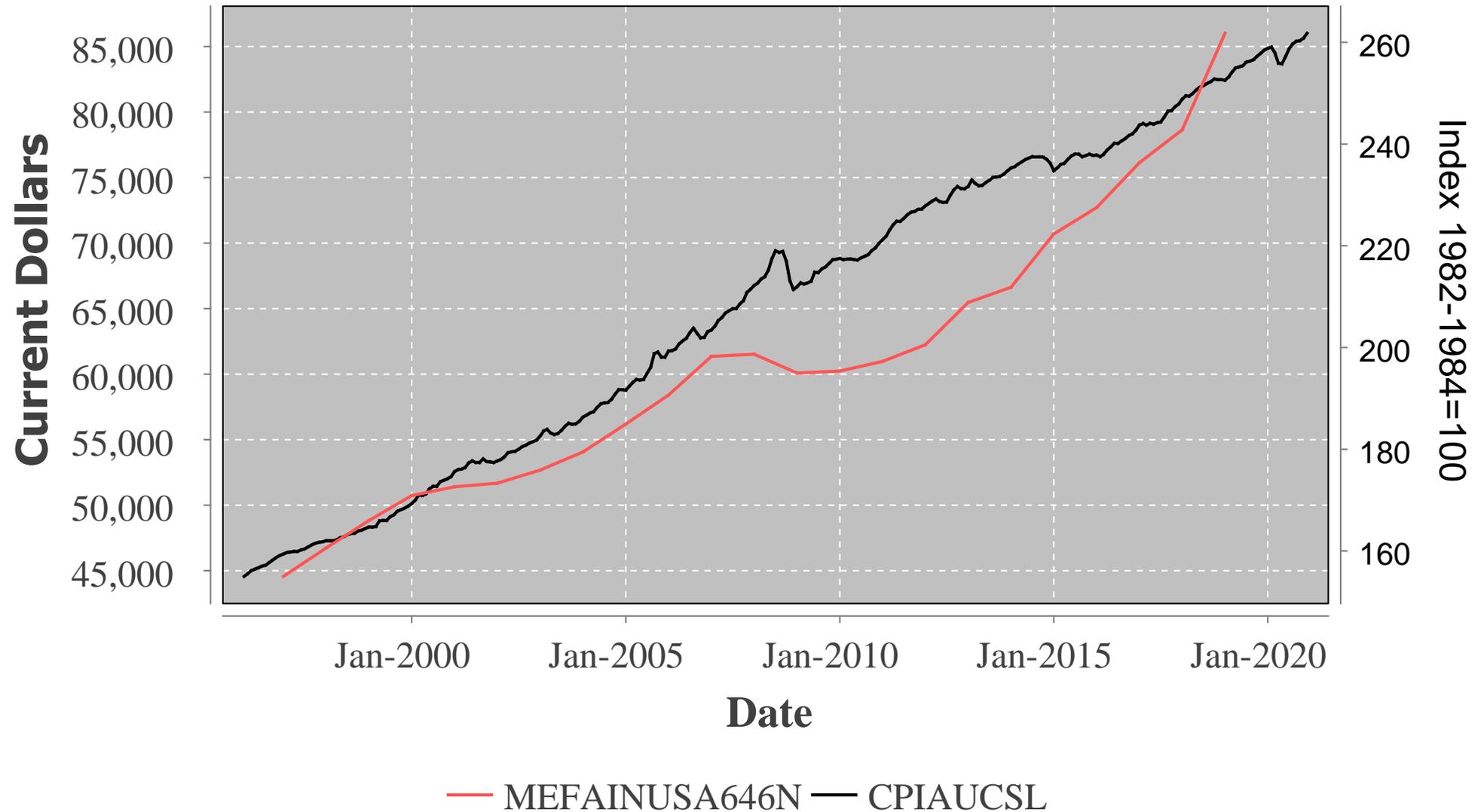
Prof. Slutsky, Mr. Super Bowl and Mr. CPI Meet in a Bar

Enjoyed a little football over the weekend and in shopping I mused about the Consumer Price index. The CPI index is a result of meticulous record keeping of up to 24,000 consumer expenditure diaries. Playing armchair quarterback, I pondered, 'can we calculate the relative change in the index with four retail products which I purchase weekly'? I display my findings in this blog.

The result is ... indeed we can. Surprisingly, readers will also revisited the concept of the [Slutsky equation](#) or the 'substitution effect'. We are well aware of this phenomena -- consumers will substitute expenditures for an alternate product when the price of a given product increases-- holding income constant. In the graph below, the increase in median personal income is lower than the CPI increase income over the past 25 years. In fact, we note the cumulative deficit of income versus expenses since the 2008 crisis. American consumers are trading water. More like a ship taking on water as every monetary reflation attempt is inevitably followed by another crisis. Shoppers continuously consider difficult budgeting decisions to meet day to day obligations during each crisis.

Conclusion: in 1776 Adam Smith published 'Wealth of Nations'. Monetary policy (coin clipping in 1776) might lubricate the wheels of finance (or the King's wars) but monetary policy does not create productive wealth. Instead our current monetary policy squanders wealth. What was true over 200 years ago is also true today.

Median Income Versus CPI



The [U.S. Bureau of Labor Statistics](#) publishes average city price for fuel and food. Those prices are now available on the St. Louis Federal Reserve Fred database. Summary data is posted later in this blog. The data set has only 30 observations but will grow with every passing month.

First a Simple Java Algorithm

```
public int[] getBestVariablesUsingResiduals(int y, int k){
    int[] var = new int[]{getHighestCorrelation(y)};
    Regression r=this.getRegression(y, var);
    while (var.length < k) {
        int inx = getBestCorrelation(r.getResidualArray());
        var = Arrays.append(var, inx);
        r = getRegression(y, var);
    }
    return var;
}
```

Given the number of consumer items, I wrote a simple java snippet to replicate CPI percent changes with price changes from only four items. In summary, the above code first scans the dataset of consumer items for the highest price change correlation with [Consumer Price Index for All Urban Consumers: All Items in U.S. City Average](#). Then, iterating and using subsequent regression residuals, we look for the highest price change correlation against those residuals. This strategy avoids choosing similar correlated consumer items, thus preventing the common issue of [multicollinearity](#).

Another quick point, a proper regression is a powerful signal processing algorithm. By iterating the residuals, we quickly pass over variables, while relevant, but whose significance already captured by previously selected variables. We thus 'see the forest through the trees'.

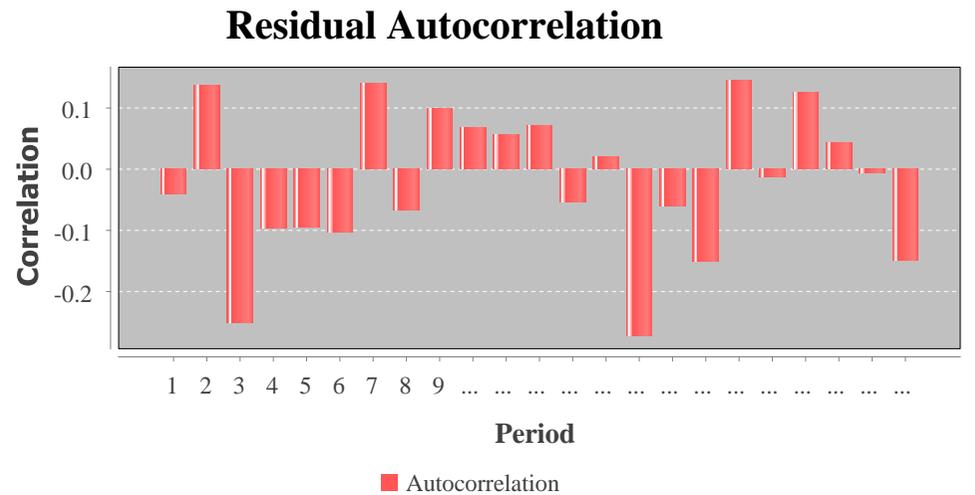
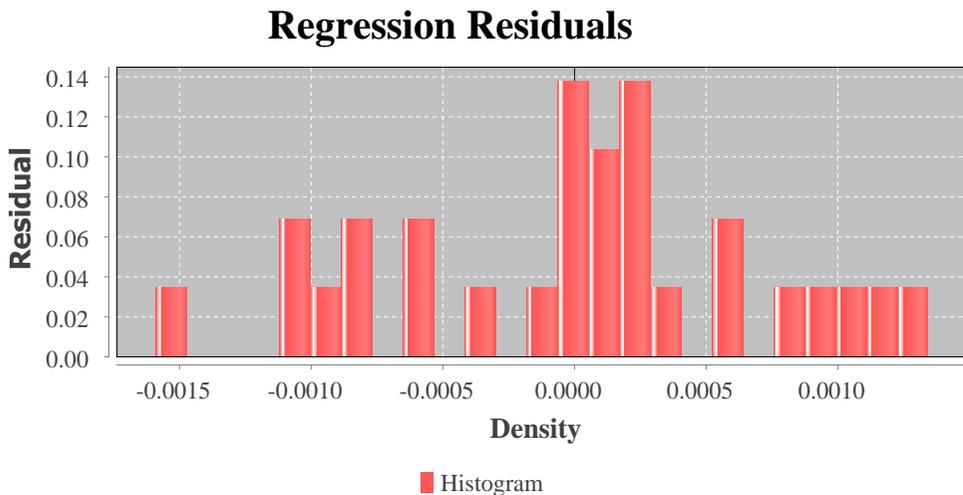
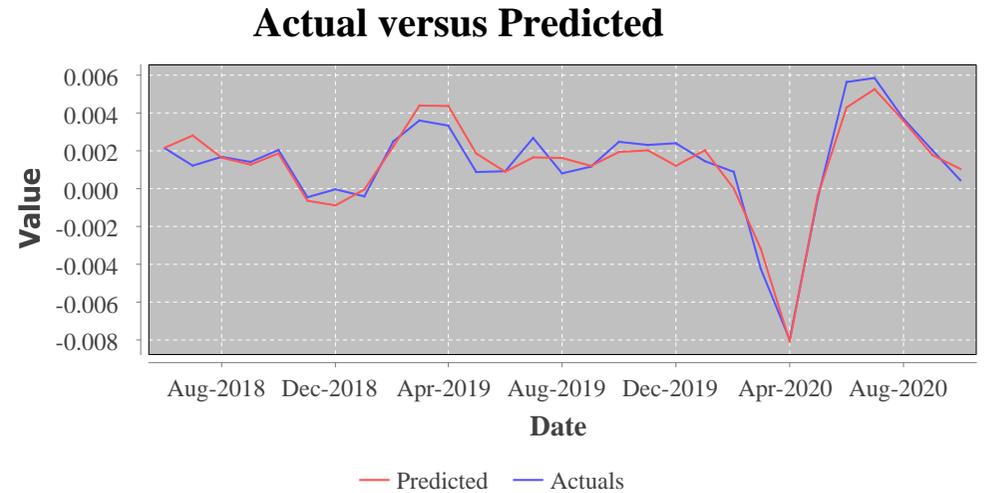
The Regression

I also added a new column to the familiar regression table. The last column represents the marginal change in R-Square after adding an additional regression variable. [Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in U.S. City Average](#) is the most predictive consumer product in the CPI index. The elasticity coefficient of 0.036, while small, explains 0.739 of consumer price changes. More interesting is the negative sign (or neutral coefficient) of the remaining three variables, [Steak, Round, USDA Choice, Boneless, Per Lb. \(453.6 Gm\) in South Urban](#), [Tomatoes, Field Grown, Per Lb. \(453.6 Gm\) in U.S. City Average](#) and [Malt Beverages, All Types, All Sizes, Any Origin, Per 16 Oz. \(473.2 MI\) in U.S. City Average](#). Are consumer choosing between food, beer and fuel? No. More likely, fracking production reduced transportation cost and these cost

offset by steady increase in food cost -- keeping CPI unusually stable. The latter conclusion has policy implications going forward. By definition, a 'green' policy will limit fossil fuel production shift and energy consumption to electrical production. If shifts in fossil fuels are not simultaneously replaced by 'green' fuels, consumers can expect bottlenecks and shortages. Consumers will again make difficult budgetary decisions.

Regression Results

Name	Beta	Std.Error	T-Stat	Delta-R2
Constant	0.0019	0.0002	12.381	
APU000074714_LogDiff	0.036	0.0028	12.688	0.739
APU0300703511_LogDiff	-0.019	0.0033	-5.74	0.086
APU0000712311_LogDiff	0.01	0.0026	3.846	0.028
APU0000720111_LogDiff	-0.067	0.02	-3.332	0.018
RSq	0.925			
AdjRSq	0.908			
DW Stat	2.056			
Observations	29			
CPIAUCSL_LogDiff				



Regression Summary and Correlation Matrix

Here we summarize the regression variables and the correlation matrix. Prices are not moving in tandem; some prices are negatively correlated. The Federal Reserve may want inflation but Federal Reserve can not direct which prices to inflate. Specifically, note the sizable difference in standard deviation of the regression variables versus the CPI. The annualized volatility for the CPI and fuel is 0.91 percent and 20.478 respectively. Cross Currency traders would drool over that volatility difference. Should prices move in tandem, as the Federal reserve policy implies, expect substantial interest rate and equity volatility.

Code	Count	Mean	Std Dev	Consumer Price Index for All Urban Consumers: All Items in U.S. City Average_LogDiff	Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in U.S. City Average_LogDiff	Steak, Round, USDA Choice, Boneless, Per Lb. (453.6 Gm) in South Urban_LogDiff	Tomatoes, Field Grown, Per Lb. (453.6 Gm) in U.S. City Average_LogDiff	Malt Beverages, All Types, All Sizes, Any Origin, Per 16 Oz. (473.2 Ml) in U.S. City Average_LogDiff
Consumer Price Index for All Urban Consumers: All Items in U.S. City Average_LogDiff	29	0.0013	0.0026	1	0.86	-0.222	0.156	-0.566
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in U.S. City Average_LogDiff	29	-0.01	0.059	0.86	1	0.116	-0.077	-0.475
Steak, Round, USDA Choice, Boneless, Per Lb. (453.6 Gm) in South Urban_LogDiff	29	0.0053	0.044	-0.222	0.116	1	-0.035	-0.072
Tomatoes, Field Grown, Per Lb. (453.6 Gm) in U.S. City Average_LogDiff	29	0.0045	0.057	0.156	-0.077	-0.035	1	0.041
Malt Beverages, All Types, All Sizes, Any	29	0.0021	0.0083	-0.566	-0.475	-0.072	0.041	1

Code	Count	Mean	Std Dev	Consumer Price Index for All Urban Consumers: All Items in U.S. City Average_LogDiff	Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in U.S. City Average_LogDiff	Steak, Round, USDA Choice, Boneless, Per Lb. (453.6 Gm) in South Urban_LogDiff	Tomatoes, Field Grown, Per Lb. (453.6 Gm) in U.S. City Average_LogDiff	Malt Beverages, All Types, All Sizes, Any Origin, Per 16 Oz. (473.2 MI) in U.S. City Average_LogDiff
Origin, Per 16 Oz. (473.2 MI) in U.S. City Average_LogDiff								

Elasticity Model

Recall from basic statistics, the elasticity of one asset against another is merely

$$\text{Elasticity}(a,b) = (\text{StdDev}(a)/\text{StdDev}(b)) * \text{Correlation}(a,b)$$

Y/X	Consumer Price Index for All Urban Consumers: All Items in U.S. City Average_LogDiff	Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in U.S. City Average_LogDiff	Steak, Round, USDA Choice, Boneless, Per Lb. (453.6 Gm) in South Urban_LogDiff	Tomatoes, Field Grown, Per Lb. (453.6 Gm) in U.S. City Average_LogDiff	Malt Beverages, All Types, All Sizes, Any Origin, Per 16 Oz. (473.2 MI) in U.S. City Average_LogDiff
Consumer Price Index for All Urban Consumers: All Items in U.S. City Average_LogDiff	1	19.348	-3.758	3.378	-1.791
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in U.S. City Average_LogDiff	0.038	1	0.087	-0.074	-0.067
Steak, Round, USDA Choice, Boneless, Per Lb. (453.6 Gm) in South Urban_LogDiff	-0.013	0.154	1	-0.045	-0.013
Tomatoes, Field Grown, Per Lb. (453.6 Gm) in U.S. City Average_LogDiff	0.0072	-0.08	-0.027	1	0.0061
Malt Beverages, All Types, All Sizes, Any Origin, Per 16 Oz. (473.2 MI) in U.S. City	-0.179	-3.376	-0.382	0.282	1

Y/X	Consumer Price Index for All Urban Consumers: All Items in U.S. City Average_LogDiff	Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in U.S. City Average_LogDiff	Steak, Round, USDA Choice, Boneless, Per Lb. (453.6 Gm) in South Urban_LogDiff	Tomatoes, Field Grown, Per Lb. (453.6 Gm) in U.S. City Average_LogDiff	Malt Beverages, All Types, All Sizes, Any Origin, Per 16 Oz. (473.2 Ml) in U.S. City Average_LogDiff
Average_LogDiff					

With the formula we can calculate the cross elasticities between retail prices. Most notable is the price elasticity of commodities assuming the CPI itself changes -- holding all other variable constant. That level is staggering as the ratio of standard deviation of underlying assets relative to the base CPI is very high.

Summary of 299 Price Series with 30 Observations

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Consumer Price Index for All Urban Consumers: All Items in U.S. City Average	260.325	0.012	0.0026	1	1	1
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in U.S. City Average	2.159	-0.192	0.059	0.86	22.51	19.348
Gasoline, All Types, Per Gallon/3.785 Liters in U.S. City Average	2.228	-0.187	0.057	0.858	21.761	18.67
Fuel Oil #2 Per Gallon (3.785 Liters) in Middle Atlantic	2.432	-0.274	0.06	0.853	22.998	19.613
Fuel Oil #2 Per Gallon (3.785 Liters) in U.S. City Average	2.139	-0.289	0.055	0.852	20.961	17.857
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in U.S. City Average	2.509	-0.171	0.051	0.851	19.324	16.436
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in South Atlantic	2.041	-0.151	0.061	0.848	23.39	19.846
Gasoline, All Types, Per Gallon/3.785 Liters in South Atlantic	2.103	-0.145	0.06	0.847	22.659	19.201
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in New England	1.977	-0.197	0.051	0.847	19.395	16.424
Gasoline, All Types, Per Gallon/3.785 Liters in New England	2.037	-0.19	0.049	0.846	18.618	15.752
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in South Atlantic	2.664	-0.11	0.046	0.846	17.532	14.829
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in U.S. City Average	2.782	-0.156	0.045	0.841	17.118	14.402
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in South Urban	1.925	-0.167	0.067	0.837	25.538	21.37
Gasoline, All Types, Per Gallon/3.785 Liters in South Urban	1.986	-0.161	0.065	0.836	24.726	20.662
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in South Atlantic	2.421	-0.125	0.048	0.834	18.216	15.197
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in New England	2.531	-0.145	0.036	0.832	13.829	11.509

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in South Urban	2.554	-0.12	0.05	0.828	18.953	15.695
Fuel Oil #2 Per Gallon (3.785 Liters) in Northeast Urban	2.164	-0.285	0.058	0.827	21.93	18.137
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in Northeast Urban	2.183	-0.154	0.046	0.826	17.436	14.406
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in West North Central	2.432	-0.186	0.052	0.826	19.87	16.413
Gasoline, All Types, Per Gallon/3.785 Liters in Northeast Urban	2.242	-0.149	0.044	0.825	16.885	13.932
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in South Urban	2.287	-0.135	0.053	0.823	20.268	16.689
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in Northeast Urban	2.73	-0.118	0.034	0.821	13.134	10.784
Gasoline, All Types, Per Gallon/3.785 Liters in West North Central	2.046	-0.191	0.071	0.818	26.898	22.015
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in New England	2.345	-0.156	0.039	0.817	14.739	12.04
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in West North Central	2.017	-0.192	0.072	0.816	27.579	22.511
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in West South Central	1.778	-0.188	0.077	0.811	29.456	23.887
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in Midwest Urban	2.627	-0.171	0.059	0.811	22.565	18.29
Gasoline, All Types, Per Gallon/3.785 Liters in West South Central	1.837	-0.182	0.075	0.81	28.536	23.113
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in East South Central	1.856	-0.188	0.069	0.809	26.443	21.404
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in Northeast Urban	2.533	-0.126	0.037	0.809	14.045	11.368
Gasoline, All Types, Per Gallon/3.785 Liters in East South Central	1.917	-0.181	0.067	0.808	25.487	20.586
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in Middle Atlantic	2.32	-0.127	0.043	0.803	16.489	13.246
Gasoline, All Types, Per Gallon/3.785 Liters in Middle Atlantic	2.378	-0.124	0.042	0.803	16.02	12.868
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in Middle Atlantic	2.865	-0.101	0.034	0.803	12.869	10.328
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in West South Central	2.395	-0.138	0.057	0.799	21.837	17.446
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in West South Central	2.133	-0.151	0.065	0.798	24.648	19.677
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in Middle Atlantic	2.656	-0.107	0.036	0.796	13.794	10.979
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in West North Central	2.206	-0.197	0.068	0.793	26.036	20.64
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in East South Central	2.513	-0.13	0.05	0.787	19.045	14.984
Gasoline, All Types, Per Gallon/3.785 Liters in Midwest Urban	2.092	-0.195	0.081	0.782	31.025	24.274

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in Midwest Urban	2.048	-0.197	0.084	0.78	31.923	24.888
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in Midwest Urban	2.357	-0.183	0.072	0.779	27.342	21.308
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in East South Central	2.187	-0.15	0.055	0.775	20.893	16.194
Automotive Diesel Fuel, Per Gallon/3.785 Liters in West North Central	2.233	-0.223	0.028	0.771	10.672	8.231
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in East North Central	2.729	-0.158	0.064	0.77	24.561	18.903
Automotive Diesel Fuel, Per Gallon/3.785 Liters in U.S. City Average	2.46	-0.203	0.025	0.769	9.549	7.34
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in East North Central	2.399	-0.174	0.074	0.764	28.275	21.589
Automotive Diesel Fuel, Per Gallon/3.785 Liters in Northeast Urban	2.646	-0.148	0.018	0.759	6.867	5.21
Automotive Diesel Fuel, Per Gallon/3.785 Liters in Pacific	3.09	-0.176	0.029	0.759	10.864	8.241
Automotive Diesel Fuel, Per Gallon/3.785 Liters in Middle Atlantic	2.688	-0.15	0.02	0.758	7.609	5.771
Gasoline, All Types, Per Gallon/3.785 Liters in Urban Alaska (CBSA)	2.462	-0.19	0.081	0.756	30.914	23.359
Fuel Oil #2 Per Gallon (3.785 Liters) in West North Central	1.79	-0.264	0.088	0.751	33.562	25.209
Gasoline, All Types, Per Gallon/3.785 Liters in East North Central	2.114	-0.194	0.089	0.745	33.796	25.18
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in West Urban	2.709	-0.217	0.056	0.744	21.252	15.818
Gasoline, All Types, Per Gallon/3.785 Liters in West Urban	2.774	-0.21	0.055	0.742	20.762	15.407
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in East North Central	2.063	-0.198	0.092	0.742	34.951	25.929
Fuel Oil #2 Per Gallon (3.785 Liters) in South Atlantic	2.145	-0.226	0.058	0.734	21.952	16.105
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in West Urban	3.085	-0.187	0.049	0.733	18.745	13.736
Fuel Oil #2 Per Gallon (3.785 Liters) in East North Central	1.975	-0.322	0.054	0.731	20.731	15.145
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in West Urban	2.982	-0.192	0.05	0.73	19.039	13.907
Automotive Diesel Fuel, Per Gallon/3.785 Liters in Midwest Urban	2.269	-0.224	0.029	0.728	10.894	7.931
Automotive Diesel Fuel, Per Gallon/3.785 Liters in West Urban	2.879	-0.185	0.03	0.724	11.309	8.192
Automotive Diesel Fuel, Per Gallon/3.785 Liters in South Urban	2.191	-0.21	0.025	0.723	9.601	6.937
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in Pacific	2.903	-0.223	0.054	0.719	20.48	14.732
Gasoline, All Types, Per Gallon/3.785 Liters in Pacific	2.963	-0.217	0.053	0.718	20.089	14.42

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in Pacific	3.231	-0.199	0.048	0.716	18.427	13.192
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in Pacific	3.173	-0.198	0.048	0.712	18.44	13.132
Automotive Diesel Fuel, Per Gallon/3.785 Liters in South Atlantic	2.314	-0.193	0.022	0.708	8.403	5.95
Automotive Diesel Fuel, Per Gallon/3.785 Liters in West South Central	1.997	-0.248	0.03	0.707	11.527	8.153
Gasoline, Unleaded Regular, Per Gallon/3.785 Liters in Mountain	2.27	-0.197	0.067	0.691	25.666	17.737
Automotive Diesel Fuel, Per Gallon/3.785 Liters in East North Central	2.286	-0.224	0.029	0.69	11.206	7.733
Gasoline, All Types, Per Gallon/3.785 Liters in Mountain	2.331	-0.191	0.066	0.686	24.998	17.151
Gasoline, Unleaded Premium, Per Gallon/3.785 Liters in Mountain	2.674	-0.164	0.058	0.666	21.938	14.607
Fuel Oil #2 Per Gallon (3.785 Liters) in New England	1.864	-0.259	0.064	0.666	24.351	16.214
Fuel Oil #2 Per Gallon (3.785 Liters) in Pacific	2.453	-0.331	0.068	0.663	25.743	17.061
Automotive Diesel Fuel, Per Gallon/3.785 Liters in New England	2.585	-0.145	0.017	0.659	6.571	4.332
Gasoline, Unleaded Midgrade, Per Gallon/3.785 Liters in Mountain	2.549	-0.169	0.06	0.655	22.845	14.968
Automotive Diesel Fuel, Per Gallon/3.785 Liters in East South Central	2.181	-0.21	0.03	0.648	11.308	7.33
Automotive Diesel Fuel, Per Gallon/3.785 Liters in Mountain	2.299	-0.225	0.034	0.521	13.121	6.835
Milk, Fresh, Low-fat, Reduced Fat, Skim, Per Gal. (3.8 Lit) in West	3.027	0.14	0.032	0.339	12.204	4.134
Oranges, Navel, Per Lb. (453.6 Gm) in Midwest Urban	1.38	-0.098	0.051	0.329	19.488	6.415
Milk, Fresh, Whole, Fortified, Per Gal. (3.8 Lit) in West Urban	3.466	0.077	0.024	0.316	9.143	2.892
Electricity Per KWH in Urban Alaska (CBSA)	0.223	0	0.039	0.311	14.919	4.647
Tomatoes, Field Grown, Per Lb. (453.6 Gm) in South Urban	1.671	-0.021	0.041	0.3	15.738	4.724
Electricity Per KWH in East South Central	0.124	-0.008	0.012	0.262	4.655	1.218
Wine, Red and White Table, All Sizes, Any Origin, Per 1 Liter (33.8 Oz) in Northeast Urban	12.528	0.071	0.019	0.25	7.159	1.787
Ice Cream, Prepackaged, Bulk, Regular, Per 1/2 Gal. (1.9 Lit) in West Urban	5.757	0.034	0.037	0.233	14.125	3.292
Electricity Per KWH in South Atlantic	0.125	-0.016	0.016	0.233	6.004	1.397
Electricity Per KWH in Middle Atlantic	0.148	0.042	0.018	0.21	6.935	1.453
Ham, Boneless, Excluding Canned, Per Lb. (453.6 Gm) in South Urban	5.061	0.037	0.045	0.196	17.172	3.365

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Bread, White, Pan, Per Lb. (453.6 Gm) in Northeast Urban	1.442	0.206	0.047	0.18	17.82	3.206
Utility (piped) Gas Per Therm in East North Central	0.841	0.04	0.027	0.17	10.353	1.759
Electricity Per KWH in South Urban	0.123	-0.0081	0.011	0.169	4.371	0.739
Milk, Fresh, Whole, Fortified, Per Gal. (3.8 Lit) in Northeast Urban	3.905	0.075	0.016	0.152	6.153	0.934
Bread, White, Pan, Per Lb. (453.6 Gm) in Midwest Urban	1.38	0.172	0.028	0.163	10.61	1.724
Milk, Fresh, Low-fat, Reduced Fat, Skim, Per Gal. (3.8 Lit) in U.S. City Average	2.928	0.039	0.02	0.162	7.45	1.205
Electricity Per KWH in U.S. City Average	0.135	-0.0074	0.011	0.161	4.321	0.694
Tomatoes, Field Grown, Per Lb. (453.6 Gm) in U.S. City Average	1.911	0.074	0.057	0.156	21.595	3.378
Rice, White, Long Grain, Uncooked, Per Lb. (453.6 Gm) in South Urban	0.858	-0.017	0.032	0.152	12.035	1.826
Utility (piped) Gas Per Therm in East South Central	1.219	0.017	0.028	0.139	10.647	1.475
Bacon, Sliced, Per Lb. (453.6 Gm) in West Urban	5.196	0.0015	0.04	0.137	15.399	2.115
American Processed Cheese, Per Lb. (453.6 Gm) in Midwest Urban	3.617	-0.015	0.032	0.136	12.018	1.631
Utility (piped) Gas Per Therm in Midwest Urban	0.854	0.057	0.031	0.135	11.783	1.59
Steak, Sirloin, USDA Choice, Boneless, Per Lb. (453.6 Gm) in Midwest Urban	8.806	0.056	0.06	0.131	22.892	3.005
Milk, Fresh, Whole, Fortified, Per Gal. (3.8 Lit) in U.S. City Average	3.38	0.084	0.016	0.13	6.054	0.788
Electricity Per KWH in Midwest Urban	0.13	-0.0076	0.026	0.127	10.039	1.276
Butter, Stick, Per Lb. (453.6 Gm) in U.S. City Average	3.586	-0.099	0.031	0.126	11.701	1.472
Bacon, Sliced, Per Lb. (453.6 Gm) in South Urban	5.791	-0.0021	0.04	0.123	15.319	1.89
Electricity Per KWH in West North Central	0.12	0.017	0.058	0.121	21.998	2.659
Milk, Fresh, Low-fat, Reduced Fat, Skim, Per Gal. (3.8 Lit) in Midwest	2.586	-0.019	0.032	0.114	12.363	1.411
Beans, Dried, Any Type, All Sizes, Per Lb. (453.6 Gm) in U.S. City Average	1.41	0.047	0.017	0.101	6.487	0.654
Bacon, Sliced, Per Lb. (453.6 Gm) in U.S. City Average	5.722	0.012	0.026	0.1	10.067	1.005
Bacon, Sliced, Per Lb. (453.6 Gm) in Midwest Urban	6.081	0.048	0.04	0.099	15.251	1.504
Beans, Dried, Any Type, All Sizes, Per Lb. (453.6 Gm) in South Urban	1.372	-0.041	0.021	0.093	7.964	0.745
Oranges, Navel, Per Lb. (453.6 Gm) in West Urban	1.558	0.115	0.054	0.093	20.576	1.914

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Wine, Red and White Table, All Sizes, Any Origin, Per 1 Liter (33.8 Oz) in Midwest Urban	10.863	0.082	0.018	0.088	6.96	0.615
Utility (piped) Gas Per Therm in West South Central	1.205	0.024	0.022	0.085	8.304	0.703
Electricity Per KWH in Northeast Urban	0.163	0.025	0.013	0.081	5.011	0.407
Electricity Per KWH in Pacific	0.178	0.035	0.011	0.081	4.105	0.331
All Soft Drinks, 12 Pk, 12 Oz., Cans, Per 12 Oz. (354.9 ML) in South	0.391	0.157	0.037	0.074	14.1	1.05
Electricity Per KWH in Los Angeles-Long Beach-Anaheim, CA (CBSA)	0.208	0.095	0.024	0.069	9.128	0.629
Bread, White, Pan, Per Lb. (453.6 Gm) in U.S. City Average	1.503	0.134	0.014	0.06	5.179	0.312
Strawberries, Dry Pint, Per 12 Oz. (340.2 Gm) in South Urban	2.492	0.09	0.114	0.06	43.53	2.592
Bologna, All Beef or Mixed, Per Lb. (453.6 Gm) in South Urban	2.419	-0.0082	0.031	0.056	11.744	0.657
Utility (piped) Gas Per Therm in West North Central	0.89	0.104	0.062	0.049	23.534	1.149
Chicken Breast, Boneless, Per Lb. (453.6 Gm) in West Urban	3.472	0.052	0.015	0.048	5.673	0.274
Frankfurters, All Meat or All Beef, Per Lb. (453.6 Gm) in South Urban	3.444	0.214	0.042	0.045	16.064	0.72
Chicken Legs, Bone-in, Per Lb. (453.6 Gm) in West Urban	1.47	0.095	0.049	0.044	18.845	0.831
Electricity Per KWH in West Urban	0.158	0.0064	0.015	0.04	5.766	0.23
Ham, Boneless, Excluding Canned, Per Lb. (453.6 Gm) in West Urban	4.286	-0.011	0.037	0.032	14.082	0.457
Yogurt, Per 8 Oz. (226.8 Gm) in South	1.228	0.091	0.025	0.026	9.535	0.246
Malt Beverages, All Types, All Sizes, Any Origin, Per 16 Oz. (473.2 ML) in Midwest Urban	1.41	0.021	0.016	0.025	5.978	0.148
Flour, White, All Purpose, Per Lb. (453.6 Gm) in South Urban	0.494	0.038	0.019	0.018	7.366	0.13
Beans, Dried, Any Type, All Sizes, Per Lb. (453.6 Gm) in West Urban	1.255	0.019	0.024	0.017	8.999	0.153
Spaghetti and Macaroni, Per Lb. (453.6 Gm) in South Urban	1.104	-0.0043	0.024	0.016	9.178	0.143
Strawberries, Dry Pint, Per 12 Oz. (340.2 Gm) in U.S. City Average	2.745	0.143	0.107	0.013	40.777	0.527
Grapes, Thompson Seedless, Per Lb. (453.6 Gm) in U.S. City Average	2.183	0.117	0.094	0.011	35.882	0.38
Utility (piped) Gas Per Therm in Middle Atlantic	1.034	-0.032	0.015	0.005	5.757	0.029
All Uncooked Other Beef (excluding Veal), Per Lb. (453.6 Gm) in Northeast Urban	5.496	-0.0002	0.056	0.004	21.167	0.084
Potatoes, White, Per Lb. (453.6 Gm) in South Urban	0.899	0.036	0.034	0.0019	13.036	0.024

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Utility (piped) Gas Per Therm in U.S. City Average	1.067	0.025	0.017	-0.0006	6.66	-0.0043
Frankfurters, All Meat or All Beef, Per Lb. (453.6 Gm) in U.S. City Average	3.558	0.151	0.037	-0.0022	14.205	-0.031
All Soft Drinks, 12 Pk, 12 Oz., Cans, Per 12 Oz. (354.9 Ml) in West	0.43	0.191	0.041	-0.0089	15.684	-0.14
Utility (piped) Gas Per Therm in Mountain	0.955	0.026	0.021	-0.011	8.185	-0.09
Potatoes, White, Per Lb. (453.6 Gm) in Northeast Urban	0.754	0.018	0.046	-0.011	17.407	-0.192
All Ham (excluding Canned Ham and Luncheon Slices), Per Lb. (453.6 Gm) in South Urban	3.469	0.0099	0.043	-0.068	16.449	-1.114
Potato Chips, Per 16 Oz. in South Urban	5.447	0.165	0.024	-0.017	8.998	-0.151
Utility (piped) Gas Per Therm in South Urban	1.245	-0.021	0.021	-0.024	8.129	-0.195
All Soft Drinks, 12 Pk, 12 Oz., Cans, Per 12 Oz. (354.9 Ml) in U.S. City Average	0.4	0.153	0.028	-0.026	10.719	-0.277
American Processed Cheese, Per Lb. (453.6 Gm) in West Urban	3.808	0.087	0.05	-0.027	18.942	-0.506
Cheddar Cheese, Natural, Per Lb. (453.6 Gm) in Midwest Urban	5.126	0.036	0.029	-0.03	11.164	-0.332
Bread, Whole Wheat, Pan, Per Lb. (453.6 Gm) in Midwest Urban	1.925	0.088	0.038	-0.031	14.46	-0.449
Wine, Red and White Table, All Sizes, Any Origin, Per 1 Liter (33.8 Oz) in U.S. City Average	12.535	0.034	0.016	-0.034	6.282	-0.214
Wine, Red and White Table, All Sizes, Any Origin, Per 1 Liter (33.8 Oz) in West Urban	13.52	0.102	0.031	-0.052	11.789	-0.612
Electricity Per KWH in East North Central	0.136	-0.0073	0.015	-0.037	5.833	-0.215
All Ham (excluding Canned Ham and Luncheon Slices), Per Lb. (453.6 Gm) in West Urban	3.48	-0.0074	0.033	-0.038	12.605	-0.482
Bread, White, Pan, Per Lb. (453.6 Gm) in South Urban	1.47	0.06	0.021	-0.046	8.105	-0.37
Cheddar Cheese, Natural, Per Lb. (453.6 Gm) in South Urban	6.081	0.135	0.026	-0.048	9.882	-0.473
Strawberries, Dry Pint, Per 12 Oz. (340.2 Gm) in West Urban	3.184	0.202	0.12	-0.053	45.76	-2.409
Electricity Per KWH in West South Central	0.118	0	0.021	-0.055	8.01	-0.437
Electricity Per KWH in Mountain	0.125	-0.023	0.032	-0.061	12.297	-0.754
Grapes, Thompson Seedless, Per Lb. (453.6 Gm) in South Urban	1.856	-0.084	0.11	-0.064	41.844	-2.667
Utility (piped) Gas Per Therm in Northeast Urban	1.092	-0.036	0.024	-0.064	9.005	-0.578
American Processed Cheese, Per Lb. (453.6 Gm) in Northeast Urban	5.298	0.147	0.036	-0.067	13.848	-0.922
American Processed Cheese, Per Lb. (453.6 Gm) in U.S. City Average	4.233	0.108	0.016	-0.07	5.988	-0.418

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Round Roast, USDA Choice, Boneless, Per Lb. (453.6 Gm) in West Urban	5.882	0.087	0.066	-0.073	24.944	-1.81
Potatoes, White, Per Lb. (453.6 Gm) in West Urban	0.815	0.071	0.034	-0.073	13.127	-0.959
All Other Pork (excluding Canned Ham and Luncheon Slices), Per Lb. (453.6 Gm) in Northeast Urban	2.711	-0.072	0.044	-0.073	16.933	-1.242
Spaghetti and Macaroni, Per Lb. (453.6 Gm) in U.S. City Average	1.22	0.036	0.027	-0.077	10.429	-0.8
Milk, Fresh, Whole, Fortified, Per Gal. (3.8 Lit) in South Urban	3.422	0.035	0.026	-0.079	9.754	-0.771
Chops, Boneless, Per Lb. (453.6 Gm) in South Urban	4.273	0.14	0.035	-0.081	13.428	-1.092
Chops, Boneless, Per Lb. (453.6 Gm) in West Urban	3.948	0.102	0.077	-0.082	29.354	-2.401
Potato Chips, Per 16 Oz. in West Urban	5.504	0.121	0.041	-0.082	15.455	-1.269
Utility (piped) Gas Per Therm in New England	1.266	-0.025	0.054	-0.085	20.459	-1.732
Ice Cream, Prepackaged, Bulk, Regular, Per 1/2 Gal. (1.9 Lit) in U.S. City Average	4.925	-0.003	0.021	-0.087	8.043	-0.7
Rice, White, Long Grain, Uncooked, Per Lb. (453.6 Gm) in U.S. City Average	0.766	-0.0091	0.024	-0.092	8.974	-0.826
Ground Beef, Lean and Extra Lean, Per Lb. (453.6 Gm) in West Urban	5.69	0.024	0.03	-0.094	11.344	-1.069
Yogurt, Per 8 Oz. (226.8 Gm) in Northeast	1.355	0.172	0.053	-0.095	20.281	-1.933
Potato Chips, Per 16 Oz. in Northeast Urban	4.286	0.219	0.049	-0.097	18.65	-1.815
Ice Cream, Prepackaged, Bulk, Regular, Per 1/2 Gal. (1.9 Lit) in South Urban	4.973	0.025	0.03	-0.102	11.325	-1.152
Bananas, Per Lb. (453.6 Gm) in Midwest Urban	0.494	-0.107	0.032	-0.104	12.344	-1.28
All Uncooked Other Beef (excluding Veal), Per Lb. (453.6 Gm) in West Urban	5.292	0.028	0.034	-0.105	13.123	-1.376
Utility (piped) Gas Per Therm in Pacific	1.428	0.11	0.046	-0.112	17.462	-1.951
Potatoes, White, Per Lb. (453.6 Gm) in Midwest Urban	0.645	-0.09	0.046	-0.112	17.363	-1.946
Utility (piped) Gas Per Therm in South Atlantic	1.299	-0.058	0.036	-0.113	13.612	-1.543
All Soft Drinks, 12 Pk, 12 Oz., Cans, Per 12 Oz. (354.9 Ml) in Midwest	0.37	0.111	0.042	-0.115	16.14	-1.855
Utility (piped) Gas Per Therm in West Urban	1.302	0.106	0.035	-0.117	13.186	-1.546
All Pork Chops, Per Lb. (453.6 Gm) in West Urban	3.755	0.089	0.047	-0.12	17.805	-2.138
Steak, Sirloin, USDA Choice, Boneless, Per Lb. (453.6 Gm) in West Urban	9.412	0.139	0.051	-0.123	19.406	-2.395
Chicken Legs, Bone-in, Per Lb. (453.6 Gm) in South Urban	1.852	0.16	0.041	-0.126	15.681	-1.972

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Cheddar Cheese, Natural, Per Lb. (453.6 Gm) in Northeast Urban	6.389	0.103	0.063	-0.131	23.843	-3.124
Bacon, Sliced, Per Lb. (453.6 Gm) in Northeast Urban	5.813	-0.0014	0.035	-0.132	13.204	-1.744
All Ham (excluding Canned Ham and Luncheon Slices), Per Lb. (453.6 Gm) in U.S. City Average	3.476	0.013	0.032	-0.133	12.203	-1.626
All Soft Drinks, Per 2 Liters (67.6 Oz) in South	1.648	0.152	0.036	-0.136	13.825	-1.879
Cheddar Cheese, Natural, Per Lb. (453.6 Gm) in West Urban	5.195	-0.0071	0.028	-0.14	10.635	-1.49
Chicken Legs, Bone-in, Per Lb. (453.6 Gm) in Midwest Urban	1.557	0.079	0.041	-0.147	15.505	-2.281
Chicken Breast, Boneless, Per Lb. (453.6 Gm) in Midwest Urban	3.347	0.266	0.08	-0.148	30.511	-4.519
Ice Cream, Prepackaged, Bulk, Regular, Per 1/2 Gal. (1.9 Lit) in Northeast Urban	4.785	0.05	0.042	-0.153	15.837	-2.418
Ham, Boneless, Excluding Canned, Per Lb. (453.6 Gm) in U.S. City Average	4.559	0.021	0.028	-0.153	10.728	-1.645
Bread, White, Pan, Per Lb. (453.6 Gm) in West Urban	1.809	0.117	0.035	-0.161	13.238	-2.13
Ice Cream, Prepackaged, Bulk, Regular, Per 1/2 Gal. (1.9 Lit) in Midwest Urban	4.425	-0.075	0.045	-0.163	17.173	-2.793
Chops, Center Cut, Bone-in, Per Lb. (453.6 Gm) in U.S. City Average	3.947	0.046	0.046	-0.166	17.57	-2.915
Ground Beef, 100% Beef, Per Lb. (453.6 Gm) in West Urban	4.698	0.095	0.026	-0.168	10.063	-1.687
All Other Pork (excluding Canned Ham and Luncheon Slices), Per Lb. (453.6 Gm) in Midwest Urban	2.962	0.062	0.035	-0.169	13.247	-2.234
Ground Chuck, 100% Beef, Per Lb. (453.6 Gm) in South Urban	4.118	0.064	0.041	-0.169	15.797	-2.667
Ham, Boneless, Excluding Canned, Per Lb. (453.6 Gm) in Midwest Urban	3.999	0.11	0.052	-0.17	19.908	-3.376
Yogurt, Per 8 Oz. (226.8 Gm) in Midwest	1.216	0.112	0.042	-0.171	16.032	-2.737
Chicken, Fresh, Whole, Per Lb. (453.6 Gm) in South Urban	1.455	0.124	0.035	-0.172	13.22	-2.279
Milk, Fresh, Low-fat, Reduced Fat, Skim, Per Gal. (3.8 Lit) in South	3.132	0.036	0.028	-0.173	10.532	-1.817
Electricity Per KWH in New England	0.195	0.0052	0.019	-0.18	7.262	-1.307
Steak, Sirloin, USDA Choice, Boneless, Per Lb. (453.6 Gm) in U.S. City Average	8.931	0.086	0.039	-0.184	14.793	-2.726
Flour, White, All Purpose, Per Lb. (453.6 Gm) in West Urban	0.41	0.065	0.031	-0.184	11.859	-2.185
All Uncooked Beef Steaks, Per Lb. (453.6 Gm) in West Urban	8.442	0.102	0.041	-0.186	15.745	-2.931
Malt Beverages, All Types, All Sizes, Any Origin, Per 16 Oz. (473.2 Ml) in South Urban	1.409	-0.0049	0.015	-0.189	5.876	-1.113
Ground Beef, Lean and Extra Lean, Per Lb. (453.6 Gm) in South Urban	5.57	0.08	0.029	-0.19	10.97	-2.081

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
All Uncooked Other Beef (excluding Veal), Per Lb. (453.6 Gm) in Midwest Urban	5.337	0.021	0.036	-0.19	13.585	-2.582
Chops, Boneless, Per Lb. (453.6 Gm) in U.S. City Average	4.138	0.114	0.034	-0.192	12.843	-2.467
American Processed Cheese, Per Lb. (453.6 Gm) in South Urban	4.362	0.186	0.023	-0.193	8.934	-1.721
All Uncooked Beef Steaks, Per Lb. (453.6 Gm) in South Urban	8.249	0.053	0.036	-0.195	13.701	-2.67
All Pork Chops, Per Lb. (453.6 Gm) in South Urban	3.679	0.181	0.038	-0.196	14.488	-2.837
All Ham (excluding Canned Ham and Luncheon Slices), Per Lb. (453.6 Gm) in Midwest Urban	3.675	0.161	0.056	-0.206	21.374	-4.399
Ground Beef, 100% Beef, Per Lb. (453.6 Gm) in South Urban	3.801	0.083	0.039	-0.213	14.763	-3.152
Steak, Round, USDA Choice, Boneless, Per Lb. (453.6 Gm) in Midwest Urban	5.766	0.065	0.065	-0.214	24.723	-5.296
Cheddar Cheese, Natural, Per Lb. (453.6 Gm) in U.S. City Average	5.583	0.058	0.016	-0.217	6.235	-1.353
All Soft Drinks, Per 2 Liters (67.6 Oz) in Midwest	1.869	0.079	0.055	-0.218	21.067	-4.585
Steak, Round, USDA Choice, Boneless, Per Lb. (453.6 Gm) in South Urban	6.694	0.194	0.044	-0.222	16.913	-3.758
Cookies, Chocolate Chip, Per Lb. (453.6 Gm) in South Urban	3.736	0.076	0.05	-0.229	19.165	-4.381
Flour, White, All Purpose, Per Lb. (453.6 Gm) in U.S. City Average	0.452	0.046	0.021	-0.229	7.906	-1.809
Chicken Legs, Bone-in, Per Lb. (453.6 Gm) in U.S. City Average	1.551	0.085	0.022	-0.234	8.323	-1.946
Yogurt, Per 8 Oz. (226.8 Gm) in U.S. City Average	1.215	0.096	0.02	-0.236	7.74	-1.824
Steak, Round, USDA Choice, Boneless, Per Lb. (453.6 Gm) in Northeast Urban	6.593	0.086	0.048	-0.236	18.362	-4.331
All Uncooked Ground Beef, Per Lb. (453.6 Gm) in West Urban	5.076	0.086	0.021	-0.239	8.161	-1.951
All Other Pork (excluding Canned Ham and Luncheon Slices), Per Lb. (453.6 Gm) in South Urban	3.053	0.193	0.024	-0.243	9.208	-2.238
Cookies, Chocolate Chip, Per Lb. (453.6 Gm) in U.S. City Average	3.848	0.068	0.029	-0.244	10.855	-2.652
Eggs, Grade AA, Large, Per Doz. in West Urban	2.046	0.061	0.065	-0.246	24.679	-6.061
Yogurt, Per 8 Oz. (226.8 Gm) in West	1.075	0.0066	0.031	-0.248	11.659	-2.89
Chicken, Fresh, Whole, Per Lb. (453.6 Gm) in West Urban	1.574	-0.0082	0.049	-0.252	18.632	-4.69
Potatoes, White, Per Lb. (453.6 Gm) in U.S. City Average	0.802	0.022	0.026	-0.254	9.837	-2.498
Wine, Red and White Table, All Sizes, Any Origin, Per 1 Liter (33.8 Oz) in South Urban	12.364	-0.125	0.029	-0.258	10.948	-2.823
Cookies, Chocolate Chip, Per Lb. (453.6 Gm) in West Urban	3.932	0.0079	0.029	-0.259	10.929	-2.833

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Chops, Boneless, Per Lb. (453.6 Gm) in Northeast Urban	3.755	0.048	0.052	-0.262	19.615	-5.133
Steak, Sirloin, USDA Choice, Boneless, Per Lb. (453.6 Gm) in South Urban	8.901	0.065	0.049	-0.265	18.536	-4.913
All Uncooked Ground Beef, Per Lb. (453.6 Gm) in South Urban	4.531	0.128	0.031	-0.266	11.915	-3.166
Bread, Whole Wheat, Pan, Per Lb. (453.6 Gm) in U.S. City Average	2.17	0.114	0.017	-0.266	6.573	-1.751
All Pork Chops, Per Lb. (453.6 Gm) in U.S. City Average	3.632	0.122	0.035	-0.269	13.254	-3.564
Chops, Boneless, Per Lb. (453.6 Gm) in Midwest Urban	4.283	0.096	0.058	-0.273	22.033	-6.005
All Other Pork (excluding Canned Ham and Luncheon Slices), Per Lb. (453.6 Gm) in West Urban	3.116	0.128	0.043	-0.278	16.498	-4.593
Ground Beef, 100% Beef, Per Lb. (453.6 Gm) in Northeast Urban	4.247	0.1	0.042	-0.281	15.898	-4.464
Round Roast, USDA Choice, Boneless, Per Lb. (453.6 Gm) in South Urban	6.054	0.146	0.056	-0.282	21.443	-6.048
All Pork Chops, Per Lb. (453.6 Gm) in Midwest Urban	3.662	0.108	0.059	-0.284	22.321	-6.344
Malt Beverages, All Types, All Sizes, Any Origin, Per 16 Oz. (473.2 Ml) in Northeast Urban	1.56	0.113	0.02	-0.285	7.61	-2.168
Ground Beef, Lean and Extra Lean, Per Lb. (453.6 Gm) in U.S. City Average	5.758	0.054	0.023	-0.287	8.796	-2.52
Potato Chips, Per 16 Oz. in U.S. City Average	5.039	0.148	0.024	-0.287	9.248	-2.657
Sugar, White, All Sizes, Per Lb. (453.6 Gm) in South Urban	0.575	0.034	0.022	-0.291	8.407	-2.447
All Uncooked Other Beef (excluding Veal), Per Lb. (453.6 Gm) in U.S. City Average	5.375	0.088	0.028	-0.292	10.474	-3.058
All Uncooked Other Beef (excluding Veal), Per Lb. (453.6 Gm) in South Urban	5.408	0.195	0.035	-0.295	13.157	-3.885
Ground Chuck, 100% Beef, Per Lb. (453.6 Gm) in Midwest Urban	3.807	-0.015	0.072	-0.296	27.535	-8.146
All Pork Chops, Per Lb. (453.6 Gm) in Northeast Urban	3.361	0.026	0.045	-0.297	16.973	-5.037
Ground Chuck, 100% Beef, Per Lb. (453.6 Gm) in U.S. City Average	4.212	0.046	0.045	-0.3	17.037	-5.114
Bananas, Per Lb. (453.6 Gm) in U.S. City Average	0.577	0.007	0.011	-0.314	4.236	-1.328
Steak, Sirloin, USDA Choice, Boneless, Per Lb. (453.6 Gm) in Northeast Urban	8.229	0.062	0.05	-0.319	18.956	-6.054
All Uncooked Beef Steaks, Per Lb. (453.6 Gm) in U.S. City Average	8.154	0.064	0.034	-0.32	12.94	-4.137
Chuck Roast, USDA Choice, Boneless, Per Lb. (453.6 Gm) in South Urban	5.649	0.078	0.06	-0.324	22.703	-7.358
Coffee, 100%, Ground Roast, All Sizes, Per Lb. (453.6 Gm) in U.S. City Average	4.522	0.083	0.011	-0.325	4.276	-1.389
Steak, Round, USDA Choice, Boneless, Per Lb. (453.6 Gm) in West Urban	6.495	0.075	0.034	-0.328	12.762	-4.192

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
All Uncooked Beef Roasts, Per Lb. (453.6 Gm) in South Urban	5.742	0.116	0.05	-0.333	19.018	-6.324
Chicken Breast, Boneless, Per Lb. (453.6 Gm) in South Urban	3.106	0.102	0.026	-0.339	9.871	-3.345
Orange Juice, Frozen Concentrate, 12 Oz. Can, Per 16 Oz. (473.2 MI) in U.S. City Average	2.307	-0.026	0.02	-0.34	7.72	-2.623
All Uncooked Beef Roasts, Per Lb. (453.6 Gm) in West Urban	6.371	0.136	0.039	-0.347	14.693	-5.101
Chicken Breast, Boneless, Per Lb. (453.6 Gm) in U.S. City Average	3.29	0.116	0.028	-0.348	10.772	-3.751
Steak, Round, USDA Choice, Boneless, Per Lb. (453.6 Gm) in U.S. City Average	6.383	0.105	0.034	-0.35	12.893	-4.514
Bananas, Per Lb. (453.6 Gm) in West Urban	0.686	0.105	0.013	-0.358	5.125	-1.834
All Uncooked Ground Beef, Per Lb. (453.6 Gm) in Midwest Urban	4.047	-0.018	0.052	-0.364	19.653	-7.146
All Uncooked Beef Steaks, Per Lb. (453.6 Gm) in Northeast Urban	8.378	0.088	0.035	-0.377	13.335	-5.024
Chicken Breast, Boneless, Per Lb. (453.6 Gm) in Northeast Urban	3.402	0.038	0.043	-0.377	16.523	-6.228
All Uncooked Ground Beef, Per Lb. (453.6 Gm) in U.S. City Average	4.552	0.068	0.03	-0.38	11.445	-4.353
All Soft Drinks, Per 2 Liters (67.6 Oz) in Northeast	1.564	-0.0032	0.054	-0.386	20.603	-7.945
Ground Beef, 100% Beef, Per Lb. (453.6 Gm) in U.S. City Average	4.008	0.043	0.032	-0.387	12.319	-4.771
Chuck Roast, USDA Choice, Boneless, Per Lb. (453.6 Gm) in U.S. City Average	5.749	0.12	0.054	-0.391	20.449	-7.991
All Uncooked Beef Steaks, Per Lb. (453.6 Gm) in Midwest Urban	7.477	0.014	0.049	-0.391	18.535	-7.253
Sugar, White, All Sizes, Per Lb. (453.6 Gm) in U.S. City Average	0.634	0.076	0.019	-0.405	7.145	-2.892
All Soft Drinks, Per 2 Liters (67.6 Oz) in U.S. City Average	1.716	0.095	0.028	-0.406	10.535	-4.277
All Uncooked Beef Roasts, Per Lb. (453.6 Gm) in Northeast Urban	5.926	0.082	0.052	-0.416	19.791	-8.226
Ground Beef, 100% Beef, Per Lb. (453.6 Gm) in Midwest Urban	3.509	-0.064	0.058	-0.416	22.262	-9.268
Round Roast, USDA Choice, Boneless, Per Lb. (453.6 Gm) in U.S. City Average	5.614	0.126	0.055	-0.419	20.874	-8.738
All Uncooked Beef Roasts, Per Lb. (453.6 Gm) in U.S. City Average	5.841	0.107	0.045	-0.432	17.016	-7.351
Bananas, Per Lb. (453.6 Gm) in South Urban	0.563	0.009	0.012	-0.441	4.478	-1.973
All Other Pork (excluding Canned Ham and Luncheon Slices), Per Lb. (453.6 Gm) in U.S. City Average	2.989	0.101	0.023	-0.449	8.724	-3.919
Eggs, Grade A, Large, Per Doz. in Midwest Urban	1.285	0.115	0.083	-0.451	31.48	-14.184
Eggs, Grade A, Large, Per Doz. in South Urban	1.218	0.014	0.134	-0.451	51.034	-23.031

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
All Uncooked Ground Beef, Per Lb. (453.6 Gm) in Northeast Urban	4.825	0.052	0.034	-0.465	12.833	-5.971
Eggs, Grade A, Large, Per Doz. in U.S. City Average	1.408	0.098	0.095	-0.479	36.248	-17.346
Potato Chips, Per 16 Oz. in Midwest Urban	4.69	0.115	0.043	-0.512	16.406	-8.405
Chicken, Fresh, Whole, Per Lb. (453.6 Gm) in Midwest Urban	1.733	0.018	0.098	-0.514	37.447	-19.26
Chicken, Fresh, Whole, Per Lb. (453.6 Gm) in U.S. City Average	1.58	0.027	0.04	-0.518	15.329	-7.938
All Uncooked Beef Roasts, Per Lb. (453.6 Gm) in Midwest Urban	5.451	0.084	0.063	-0.541	23.962	-12.955
Malt Beverages, All Types, All Sizes, Any Origin, Per 16 Oz. (473.2 Ml) in U.S. City Average	1.492	0.038	0.0083	-0.566	3.165	-1.791
Malt Beverages, All Types, All Sizes, Any Origin, Per 16 Oz. (473.2 Ml) in West Urban	1.632	0.066	0.012	-0.579	4.519	-2.618

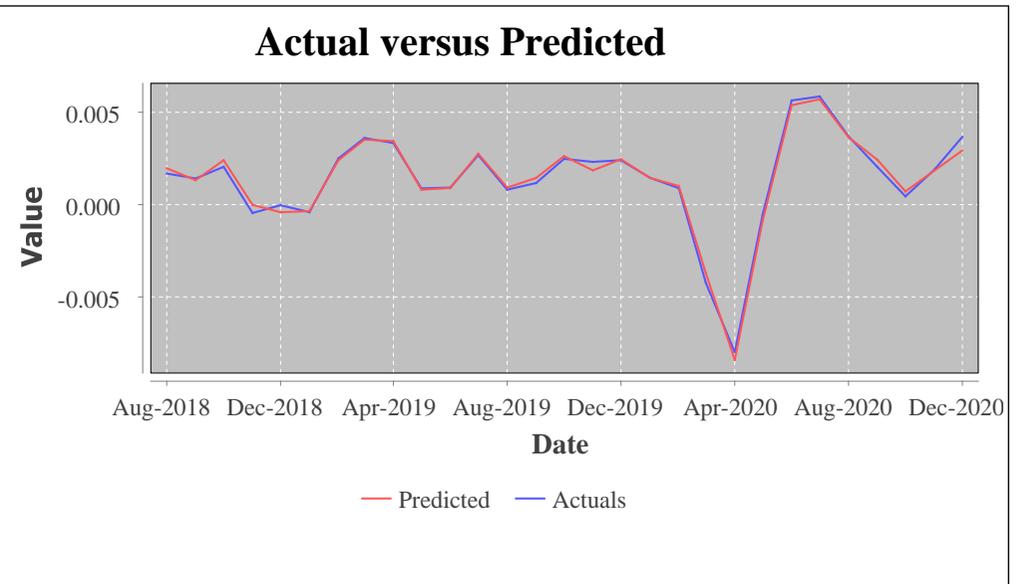
Same Analysis but Using CPI Data

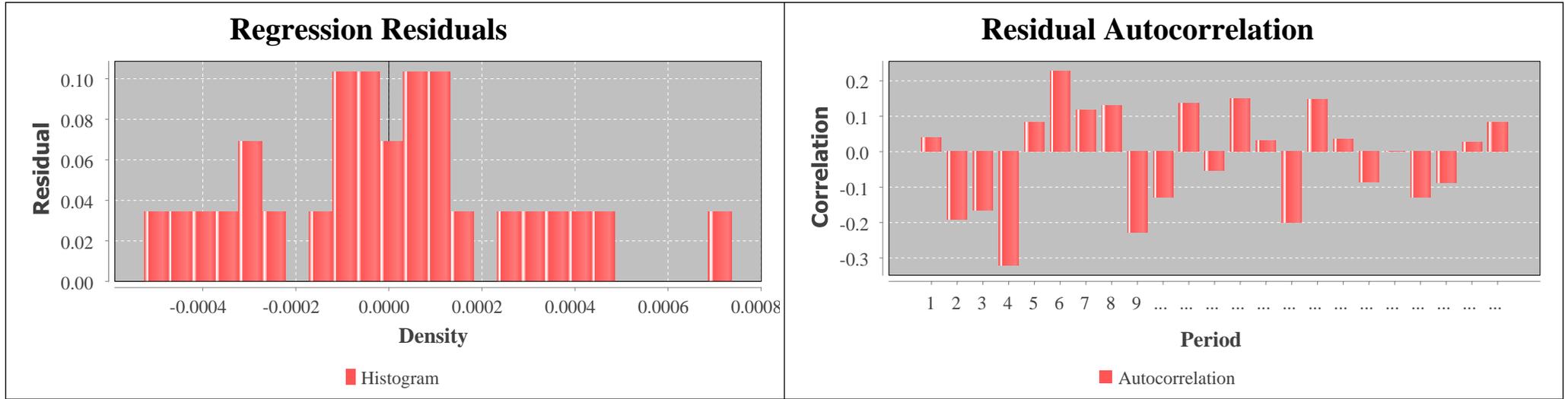
The above analysis is fun. From here, we'll take a brief look at the CPI index when using underlying CPI indices.

The CPI Regression

Regression Results

Name	Beta	Std.Error	T-Stat	Delta-R2
Constant	0.0005	0.0002	2.816	
CPITRNSL_LogDiff	0.154	0.0041	38.058	0.965
CUUR0000SAM2_LogDiff	0.115	0.023	5.107	0.0078
CPIHOSSL_LogDiff	0.292	0.071	4.091	0.0061
CUSR0000SEFX_LogDiff	0.051	0.018	2.874	0.0015
RSq	0.988			
AdjRSq	0.986			
DW Stat	1.653			
Observations	29			
CPIAUCSL_LogDiff				





[Consumer Price Index for All Urban Consumers: Transportation in U.S. City Average](#)

[Consumer Price Index for All Urban Consumers: Medical Care Services in U.S. City Average](#)

[Consumer Price Index for All Urban Consumers: Housing in U.S. City Average](#)

[Consumer Price Index for All Urban Consumers: Alcoholic Beverages Away from Home in U.S. City Average](#)

The CPI regression R-Square is 0.988. Transport, medical cost and housing are the most important variables. And of course, we must not forget the beer, the fourth variable. On that last note, enjoy the Super Bowl and stay healthy.

Regression Summary and Correlation Matrix

Code	Count	Mean	Std Dev	Consumer Price Index for All Urban Consumers: All Items in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Transportation in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Medical Care Services in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Housing in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Alcoholic Beverages Away from Home in U.S. City Average_LogDiff
Consumer Price Index for All Urban Consumers: All Items in U.S. City Average_LogDiff	29	0.0014	0.0027	1	0.982	-0.149	0.503	-0.073

Code	Count	Mean	Std Dev	Consumer Price Index for All Urban Consumers: All Items in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Transportation in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Medical Care Services in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Housing in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Alcoholic Beverages Away from Home in U.S. City Average_LogDiff
Consumer Price Index for All Urban Consumers: Transportation in U.S. City Average_LogDiff	29	-0.0007	0.017	0.982	1	-0.254	0.423	-0.116
Consumer Price Index for All Urban Consumers: Medical Care Services in U.S. City Average_LogDiff	29	0.0029	0.0028	-0.149	-0.254	1	-0.083	-0.199
Consumer Price Index for All Urban Consumers: Housing in U.S. City Average_LogDiff	29	0.002	0.0009	0.503	0.423	-0.083	1	-0.021
Consumer Price Index for All Urban Consumers: Alcoholic Beverages Away from Home in U.S. City Average_LogDiff	29	0.0016	0.0035	-0.073	-0.116	-0.199	-0.021	1

Elasticity Model

Y/X	Consumer Price Index for All Urban Consumers: All Items in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Transportation in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Medical Care Services in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Housing in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Alcoholic Beverages Away from Home in U.S. City Average_LogDiff
Consumer Price Index for All Urban Consumers: All Items in U.S. City Average_LogDiff	1	6.219	-0.157	0.173	-0.096

Y/X	Consumer Price Index for All Urban Consumers: All Items in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Transportation in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Medical Care Services in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Housing in U.S. City Average_LogDiff	Consumer Price Index for All Urban Consumers: Alcoholic Beverages Away from Home in U.S. City Average_LogDiff
Consumer Price Index for All Urban Consumers: Transportation in U.S. City Average_LogDiff	0.155	1	-0.042	0.023	-0.024
Consumer Price Index for All Urban Consumers: Medical Care Services in U.S. City Average_LogDiff	-0.142	-1.529	1	-0.027	-0.248
Consumer Price Index for All Urban Consumers: Housing in U.S. City Average_LogDiff	1.46	7.777	-0.254	1	-0.082
Consumer Price Index for All Urban Consumers: Alcoholic Beverages Away from Home in U.S. City Average_LogDiff	-0.056	-0.558	-0.16	-0.0056	1

Summary of 134 Price Series with 30 Observations

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Consumer Price Index for All Urban Consumers: All Items in U.S. City Average	261.775	0.013	0.0027	1	1	1
Consumer Price Index for All Urban Consumers: Transportation in U.S. City Average	207.037	-0.026	0.017	0.982	6.332	6.219
Consumer Price Index for All Urban Consumers: Motor Fuel in U.S. City Average	207.173	-0.153	0.062	0.963	23.363	22.492
Consumer Price Index for All Urban Consumers: Gasoline (All Types) in U.S. City Average	206.353	-0.152	0.063	0.963	23.68	22.795
Consumer Price Index for All Urban Consumers: Energy Commodities in U.S. City Average	210.773	-0.152	0.061	0.962	22.893	22.029
Consumer Price Index for All Urban Consumers: Energy in U.S. City Average	205.084	-0.073	0.031	0.957	11.5	11.008
Consumer Price Index for All Urban Consumers: Commodities in U.S. City Average	187.868	0.0067	0.0055	0.948	2.072	1.965

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Consumer Price Index for All Urban Consumers: Nondurables in U.S. City Average	228.461	-0.003	0.0082	0.932	3.083	2.874
Consumer Price Index for All Urban Consumers: Energy Commodities in U.S. City Average	198.997	-0.152	0.056	0.86	20.981	18.041
Consumer Price Index for All Urban Consumers: Fuel Oil and Other Fuels in U.S. City Average	248.142	-0.133	0.039	0.855	14.527	12.425
Consumer Price Index for All Urban Consumers: Motor Fuel in U.S. City Average	194.996	-0.153	0.057	0.853	21.461	18.315
Consumer Price Index for All Urban Consumers: Gasoline (All Types) in U.S. City Average	193.99	-0.152	0.058	0.852	21.771	18.559
Consumer Price Index for All Urban Consumers: Fuel Oil and Other Fuels in U.S. City Average	249.564	-0.133	0.04	0.831	14.889	12.376
Consumer Price Index for All Urban Consumers: Airline Fares in U.S. City Average	217.323	-0.184	0.045	0.804	16.89	13.58
Consumer Price Index for All Urban Consumers: Transportation Services in U.S. City Average	312.959	-0.035	0.014	0.75	5.267	3.952
Consumer Price Index for All Urban Consumers: Services Less Energy Services in U.S. City Average	347.374	0.016	0.0016	0.75	0.594	0.446
Consumer Price Index for All Urban Consumers: Services in U.S. City Average	334.742	0.016	0.0015	0.747	0.574	0.429
Consumer Price Index for All Urban Consumers: Lodging Away from Home in U.S. City Average	147.218	-0.096	0.024	0.718	8.948	6.426
Consumer Price Index for All Urban Consumers: Apparel in U.S. City Average	118.21	-0.04	0.013	0.717	5.073	3.635
Consumer Price Index for All Urban Consumers: Commodities in U.S. City Average	186.063	0.0088	0.006	0.698	2.269	1.583
Consumer Price Index for All Urban Consumers: Nondurables in U.S. City Average	225.432	-0.003	0.0081	0.672	3.031	2.037
Consumer Price Index for All Urban Consumers: Services in U.S. City Average	334.03	0.017	0.0016	0.663	0.615	0.408
Consumer Price Index for All Urban Consumers: Services Less Energy Services in U.S. City Average	346.808	0.016	0.0016	0.657	0.613	0.403
Consumer Price Index for All Urban Consumers: Footwear in U.S. City Average	134.608	-0.022	0.013	0.573	4.949	2.834
Consumer Price Index for All Urban Consumers: Commodities Less Food and Energy Commodities in U.S. City Average	146.488	0.016	0.0035	0.555	1.309	0.726
Consumer Price Index for All Urban Consumers: Men's and Boys' Apparel in U.S. City Average	113.465	-0.032	0.017	0.52	6.394	3.326
Consumer Price Index for All Urban Consumers: Housing in U.S. City Average	274.375	0.02	0.0009	0.503	0.344	0.173
Consumer Price Index for All Urban Consumers: Airline Fares in U.S. City Average	205.983	-0.184	0.051	0.487	19.074	9.281
Consumer Price Index for All Urban Consumers: Tobacco and Smoking Products in U.S. City Average	1,199.18	0.051	0.004	0.479	1.52	0.728
Consumer Price Index for All Urban Consumers: Footwear in U.S. City Average	132.314	-0.022	0.013	0.44	4.84	2.131
Consumer Price Index for All Urban Consumers: New Vehicles in U.S. City Average	149.569	0.02	0.0023	0.439	0.876	0.385

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Consumer Price Index for All Urban Consumers: Food Away from Home in U.S. City Average	299.369	0.039	0.0012	0.381	0.436	0.166
Consumer Price Index for All Urban Consumers: Food Away from Home in U.S. City Average	299.369	0.039	0.0012	0.381	0.436	0.166
Consumer Price Index for All Urban Consumers: Tobacco and Smoking Products in U.S. City Average	1,199.51	0.051	0.0046	0.351	1.732	0.608
Consumer Price Index for All Urban Consumers: Commodities Less Food and Energy Commodities in U.S. City Average	145.317	0.017	0.0046	0.344	1.724	0.593
Consumer Price Index for All Urban Consumers: Laundry and Dry Cleaning Services in U.S. City Average	181.813	0.018	0.0022	0.336	0.818	0.275
Consumer Price Index for All Urban Consumers: Laundry and Dry Cleaning Services in U.S. City Average	181.813	0.018	0.0022	0.336	0.818	0.275
Consumer Price Index for All Urban Consumers: Rent of Shelter in U.S. City Average	342.224	0.019	0.0011	0.335	0.402	0.135
Consumer Price Index for All Urban Consumers: Fuels and Utilities in U.S. City Average	247.236	0.023	0.0065	0.332	2.461	0.816
Consumer Price Index for All Urban Consumers: Lodging Away from Home in U.S. City Average	133.538	-0.095	0.036	0.325	13.7	4.454
Consumer Price Index for All Urban Consumers: Telephone Services in U.S. City Average	94.057	0.042	0.0066	0.318	2.475	0.787
Consumer Price Index for All Urban Consumers: Fuels and Utilities in U.S. City Average	249.351	0.023	0.0045	0.313	1.691	0.53
Consumer Price Index for All Urban Consumers: Shelter in U.S. City Average	327.702	0.018	0.0012	0.279	0.458	0.128
Consumer Price Index for All Urban Consumers: Men's and Boys' Apparel in U.S. City Average	108.861	-0.032	0.028	0.277	10.444	2.895
Consumer Price Index for All Urban Consumers: Rent of Shelter in U.S. City Average	341.779	0.019	0.0012	0.275	0.463	0.128
Consumer Price Index for All Urban Consumers: Durables in U.S. City Average	108.389	0.039	0.0048	0.256	1.788	0.458
Consumer Price Index for All Urban Consumers: Education and Communication in U.S. City Average	141.388	0.02	0.0025	0.243	0.932	0.227
Consumer Price Index for All Urban Consumers: Other Goods and Services in U.S. City Average	466.307	0.024	0.0022	0.236	0.832	0.196
Consumer Price Index for All Urban Consumers: New and Used Motor Vehicles in U.S. City Average	103.242	0.048	0.0073	0.23	2.75	0.633
Consumer Price Index for All Urban Consumers: New and Used Motor Vehicles in U.S. City Average	103.848	0.048	0.0066	0.228	2.48	0.564
Consumer Price Index for All Urban Consumers: Durables in U.S. City Average	107.691	0.039	0.0052	0.211	1.949	0.412
Consumer Price Index for All Urban Consumers: New Vehicles in U.S. City Average	149.091	0.02	0.0033	0.196	1.244	0.244
Consumer Price Index for All Urban Consumers: Pet Food in U.S. City Average	155.04	-0.0075	0.0045	0.19	1.679	0.319
Consumer Price Index for All Urban Consumers: Pet Food in U.S. City Average	155.04	-0.0075	0.0045	0.19	1.679	0.319
Consumer Price Index for All Urban Consumers: Water and Sewer and Trash Collection Services in U.S. City	256.885	0.036	0.0024	0.165	0.919	0.151

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Average						
Consumer Price Index for All Urban Consumers: Electricity in U.S. City Average	214.375	0.022	0.011	0.154	4.031	0.623
Consumer Price Index for All Urban Consumers: Energy Services in U.S. City Average	206.758	0.026	0.0092	0.151	3.464	0.524
Consumer Price Index for All Urban Consumers: Electricity in U.S. City Average	218.81	0.022	0.0051	0.146	1.916	0.28
Consumer Price Index for All Urban Consumers: Tenants' and Household Insurance in U.S. City Average	151.786	0.0009	0.0023	0.14	0.879	0.123
Consumer Price Index for All Urban Consumers: Water and Sewer and Trash Collection Services in U.S. City Average	256.456	0.036	0.0024	0.13	0.909	0.118
Consumer Price Index for All Urban Consumers: Tuition, Other School Fees, and Childcare in U.S. City Average	782.444	0.014	0.003	0.105	1.115	0.117
Consumer Price Index for All Urban Consumers: Used Cars and Trucks in U.S. City Average	152.657	0.1	0.017	0.099	6.575	0.648
Consumer Price Index for All Urban Consumers: Education in U.S. City Average	272.437	0.014	0.0028	0.097	1.05	0.102
Consumer Price Index for All Urban Consumers: Motor Vehicle Parts and Equipment in U.S. City Average	148.363	0.0041	0.0038	0.067	1.415	0.095
Consumer Price Index for All Urban Consumers: Motor Vehicle Parts and Equipment in U.S. City Average	148.363	0.0041	0.0038	0.067	1.415	0.095
Consumer Price Index for All Urban Consumers: Cable and Satellite Television Service in U.S. City Average	509.545	0.042	0.0036	0.06	1.337	0.08
Consumer Price Index for All Urban Consumers: Energy Services in U.S. City Average	209.167	0.026	0.0059	0.053	2.231	0.119
Consumer Price Index for All Urban Consumers: Household Furnishings and Operations in U.S. City Average	127.986	0.032	0.003	0.027	1.111	0.03
Consumer Price Index for All Urban Consumers: Utility (Piped) Gas Service in U.S. City Average	180.767	0.041	0.019	0.026	6.965	0.179
Consumer Price Index for All Urban Consumers: Information Technology, Hardware and Services in U.S. City Average	7.288	-0.0082	0.0037	0.025	1.38	0.035
Consumer Price Index for All Urban Consumers: Cable and Satellite Television Service in U.S. City Average	510.914	0.042	0.0038	0.013	1.419	0.019
Consumer Price Index for All Urban Consumers: Personal Care Products in U.S. City Average	158.846	-0.0032	0.0042	0.0097	1.576	0.015
Consumer Price Index for All Urban Consumers: Owners' Equivalent Rent of Primary Residence in U.S. City Average	337.721	0.022	0.0007	0.0097	0.268	0.0026
Consumer Price Index for All Urban Consumers: Other Food Away from Home in U.S. City Average	201.855	0.018	0.0035	0.0069	1.31	0.009
Consumer Price Index for All Urban Consumers: Other Food Away from Home in U.S. City Average	201.855	0.018	0.0035	0.0069	1.31	0.009
Consumer Price Index for All Urban Consumers: Owners' Equivalent Rent of Residences in U.S. City Average	337.695	0.022	0.0007	0.0059	0.267	0.0016

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Consumer Price Index for All Urban Consumers: Cosmetics, Perfume, Bath, Nail Preparations and Implements in U.S. City Average	178.552	-0.0024	0.0057	-0.028	2.138	-0.059
Consumer Price Index for All Urban Consumers: Toys in U.S. City Average	28.962	-0.037	0.0064	-0.032	2.408	-0.077
Consumer Price Index for All Urban Consumers: Household Furnishings and Operations in U.S. City Average	127.367	0.032	0.0034	-0.039	1.292	-0.051
Consumer Price Index for All Urban Consumers: Professional Services in U.S. City Average	392.914	0.019	0.0019	-0.04	0.711	-0.028
Consumer Price Index for All Urban Consumers: Toys in U.S. City Average	28.618	-0.037	0.0096	-0.046	3.608	-0.166
Consumer Price Index for All Urban Consumers: Rent of Primary Residence in U.S. City Average	344.455	0.023	0.0009	-0.06	0.33	-0.02
Consumer Price Index for All Urban Consumers: Information Technology, Hardware and Services in U.S. City Average	7.288	-0.008	0.0038	-0.069	1.441	-0.1
Consumer Price Index for All Urban Consumers: Alcoholic Beverages Away from Home in U.S. City Average	367.636	0.028	0.0035	-0.073	1.312	-0.096
Consumer Price Index for All Urban Consumers: Alcoholic Beverages Away from Home in U.S. City Average	367.636	0.028	0.0035	-0.073	1.312	-0.096
Consumer Price Index for All Urban Consumers: Computers, Peripherals, and Smart Home Assistants in U.S. City Average	38.571	0.0083	0.015	-0.076	5.585	-0.425
Consumer Price Index for All Urban Consumers: Utility (Piped) Gas Service in U.S. City Average	177.291	0.041	0.015	-0.077	5.658	-0.436
Consumer Price Index for All Urban Consumers: Computers, Peripherals, and Smart Home Assistants in U.S. City Average	38.315	0.0083	0.014	-0.083	5.367	-0.447
Consumer Price Index for All Urban Consumers: Educational Books and Supplies in U.S. City Average	686.054	0.0072	0.0087	-0.088	3.267	-0.288
Consumer Price Index for All Urban Consumers: Admission to Movies, Theaters, and Concerts in U.S. City Average	189.497	0.012	0.011	-0.089	3.982	-0.355
Consumer Price Index for All Urban Consumers: Admission to Movies, Theaters, and Concerts in U.S. City Average	189.497	0.012	0.011	-0.089	3.982	-0.355
Consumer Price Index for All Urban Consumers: Medical Care in U.S. City Average	519.771	0.018	0.0027	-0.094	1.022	-0.096
Consumer Price Index for All Urban Consumers: Motor Vehicle Maintenance and Repair in U.S. City Average	309.888	0.034	0.0028	-0.099	1.038	-0.103
Consumer Price Index for All Urban Consumers: Motor Vehicle Maintenance and Repair in U.S. City Average	309.888	0.034	0.0028	-0.099	1.038	-0.103
Consumer Price Index for All Urban Consumers: Hospital and Related Services in U.S. City Average	928.006	0.031	0.0038	-0.116	1.417	-0.164
Consumer Price Index for All Urban Consumers: Owners' Equivalent Rent of Primary Residence in U.S. City	337.346	0.022	0.0008	-0.121	0.297	-0.036

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Average						
Consumer Price Index for All Urban Consumers: Owners' Equivalent Rent of Residences in U.S. City Average	337.317	0.022	0.0008	-0.126	0.295	-0.037
Consumer Price Index for All Urban Consumers: Coffee in U.S. City Average	195.956	0.024	0.011	-0.132	3.969	-0.523
Consumer Price Index for All Urban Consumers: Tuition, Other School Fees, and Childcare in U.S. City Average	779.987	0.014	0.0018	-0.144	0.676	-0.097
Consumer Price Index for All Urban Consumers: Medical Care Services in U.S. City Average	564.201	0.028	0.0028	-0.149	1.053	-0.157
Consumer Price Index for All Urban Consumers: Hospital and Related Services in U.S. City Average	931.358	0.031	0.0035	-0.151	1.33	-0.201
Consumer Price Index for All Urban Consumers: Professional Services in U.S. City Average	391.877	0.019	0.002	-0.155	0.74	-0.115
Consumer Price Index for All Urban Consumers: Rent of Primary Residence in U.S. City Average	343.987	0.023	0.0009	-0.16	0.352	-0.056
Consumer Price Index for All Urban Consumers: Medical Care Services in U.S. City Average	565.28	0.028	0.0027	-0.168	1.011	-0.17
Consumer Price Index for All Urban Consumers: Recreation in U.S. City Average	123.005	0.0095	0.0038	-0.171	1.413	-0.242
Consumer Price Index for All Urban Consumers: Candy and Chewing Gum in U.S. City Average	157.659	0.043	0.01	-0.199	3.762	-0.748
Consumer Price Index for All Urban Consumers: Coffee in U.S. City Average	193.029	0.024	0.011	-0.21	4.124	-0.866
Consumer Price Index for All Urban Consumers: Educational Books and Supplies in U.S. City Average	684.986	0.0072	0.0068	-0.242	2.549	-0.617
Consumer Price Index for All Urban Consumers: Fats and Oils in U.S. City Average	228.076	0.028	0.0097	-0.247	3.639	-0.9
Consumer Price Index for All Urban Consumers: Sugar and Sweets in U.S. City Average	230.721	0.046	0.0089	-0.269	3.349	-0.902
Consumer Price Index for All Urban Consumers: Sugar and Sweets in U.S. City Average	230.721	0.046	0.0089	-0.269	3.349	-0.902
Consumer Price Index for All Urban Consumers: Fruits and Vegetables in U.S. City Average	306.506	0.032	0.008	-0.339	3.026	-1.025
Consumer Price Index for All Urban Consumers: Dairy and Related Products in U.S. City Average	231.74	0.044	0.0055	-0.356	2.085	-0.743
Consumer Price Index for All Urban Consumers: Dairy and Related Products in U.S. City Average	230.989	0.044	0.0058	-0.393	2.168	-0.851
Consumer Price Index for All Urban Consumers: Fruits and Vegetables in U.S. City Average	307.102	0.032	0.0059	-0.406	2.209	-0.898
Consumer Price Index for All Urban Consumers: Alcoholic Beverages in U.S. City Average	259.397	0.028	0.0026	-0.417	0.995	-0.414
Consumer Price Index for All Urban Consumers: Alcoholic Beverages in U.S. City Average	259.641	0.028	0.0025	-0.421	0.949	-0.4
Consumer Price Index for All Urban Consumers: Fats and Oils in U.S. City Average	230.508	0.028	0.0065	-0.432	2.46	-1.063
Consumer Price Index for All Urban Consumers: Alcoholic Beverages at Home in U.S. City Average	210.074	0.028	0.0037	-0.465	1.391	-0.647
Consumer Price Index for All Urban Consumers: Nonalcoholic Beverages and Beverage Materials in U.S. City	177.539	0.044	0.0085	-0.485	3.186	-1.544

Series	Last	Growth Rate	Std Dev	Corr.	Ratio	Elasticity
Average						
Consumer Price Index for All Urban Consumers: Other Foods in U.S. City Average	233.624	0.039	0.007	-0.487	2.642	-1.286
Consumer Price Index for All Urban Consumers: Other Foods in U.S. City Average	234.236	0.039	0.006	-0.504	2.254	-1.135
Consumer Price Index for All Urban Consumers: Alcoholic Beverages at Home in U.S. City Average	210.37	0.028	0.0033	-0.535	1.224	-0.656
Consumer Price Index for All Urban Consumers: Other Food at Home in U.S. City Average	218.534	0.039	0.0056	-0.573	2.092	-1.199
Consumer Price Index for All Urban Consumers: Meats, Poultry, Fish, and Eggs in U.S. City Average	265.377	0.046	0.014	-0.581	5.289	-3.074
Consumer Price Index for All Urban Consumers: Other Food at Home in U.S. City Average	219.217	0.039	0.005	-0.585	1.881	-1.1
Consumer Price Index for All Urban Consumers: Cereals and Bakery Products in U.S. City Average	285.137	0.032	0.0062	-0.593	2.32	-1.375
Consumer Price Index for All Urban Consumers: Nonalcoholic Beverages and Beverage Materials in U.S. City Average	178.236	0.044	0.0073	-0.593	2.743	-1.626
Consumer Price Index for All Urban Consumers: Meats, Poultry, Fish, and Eggs in U.S. City Average	264.475	0.046	0.014	-0.596	5.191	-3.092
Consumer Price Index for All Urban Consumers: Cereals and Bakery Products in U.S. City Average	283.735	0.032	0.0059	-0.652	2.211	-1.441
Consumer Price Index for All Urban Consumers: Food in U.S. City Average	270.419	0.039	0.0032	-0.661	1.217	-0.805
Consumer Price Index for All Urban Consumers: Food and Beverages in U.S. City Average	269.769	0.038	0.0031	-0.67	1.158	-0.777
Consumer Price Index for All Urban Consumers: Food at Home in U.S. City Average	251.924	0.039	0.006	-0.707	2.24	-1.583
Consumer Price Index for All Urban Consumers: Food at Home in U.S. City Average	251.253	0.039	0.0061	-0.707	2.295	-1.622