

TidyTuesday Week 38

Pranay Gundam

Sunday 22nd September, 2024

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1 Weekly Summary

This week, I'm going to talk mostly about 9/21. The regression was between quarterly Real GDP in wholesale trade in the Mideast and total compensation for private industry workers in manufacturing. The regression was significant with an R-squared value of 0.807 and shows a strong positive relationship between the two variables. Until I fix the reported regression to make them more intelligent I'm sure I will see this trend a lot. I feel like relationships between two series that are proxies for some other larger macroeconomic trends will be pretty strong but not give much insight into some deeper relationship between the two series. In this case, for example, the general relationship between GDP and employment/compensation is well well studied. Usually as GDP grows employment and compensation does as well. What is interesting though in this case is that the relationship is so strong in the opposite direction. Looking a bit deeper into the series though its clear that this is an matter of not detrending either of the series since both show consistent trends where compensation has been increasing but RGDP specifically in whoelsale Trade in the Mideast has been decreasing.

2 Date: 2024-09-18

Series ID: WPUDUR0211

This series is titled Producer Price Index by Commodity for Durability of Product: Durable Manufactured Goods (DISCONTINUED) and has a frequency of Monthly. The units are Index 1982=100 and the seasonal adjustment is Not Seasonally Adjusted. The observation start date is 1947-01-01 and the observation end date is 2018-12-01. The popularity of this series is 1.

Series ID: MRTSMPCIM4423XUSN

This series is titled Retail Inventories: Furniture, Home Furnishings, Electronics, and Appliance Stores and has a frequency of Monthly, End of Period. The units are Percent Change from Preceding Period and the seasonal adjustment is Not Seasonally Adjusted. The observation start date is 1992-02-01 and the observation end date is 2024-07-01. The popularity of this series is 1.

2.1 Regression Tables and Plots

Dep. Variable:	value_fred_MRTSMPCIM4423XUSN	R-squared:	0.003
Model:	OLS	Adj. R-squared:	-0.000
Method:	Least Squares	F-statistic:	0.8646
Date:	Wed, 18 Sep 2024	Prob (F-statistic):	0.353
Time:	23:18:19	Log-Likelihood:	-959.15
No. Observations:	323	AIC:	1922.
Df Residuals:	321	BIC:	1930.
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P> t	[0.025	0.975]
const	2.6034	2.489	1.046	0.296	-2.293	7.500
value_fred_WPUDUR0211	-0.0157	0.017	-0.930	0.353	-0.049	0.017

Omnibus:	53.368	Durbin-Watson:	1.585
Prob(Omnibus):	0.000	Jarque-Bera (JB):	93.834
Skew:	-0.928	Prob(JB):	4.21e-21
Kurtosis:	4.877	Cond. No.	1.40e+03

Notes:

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

[2] The condition number is large, 1.4e+03. This might indicate that there are strong multicollinearity or other numerical problems.

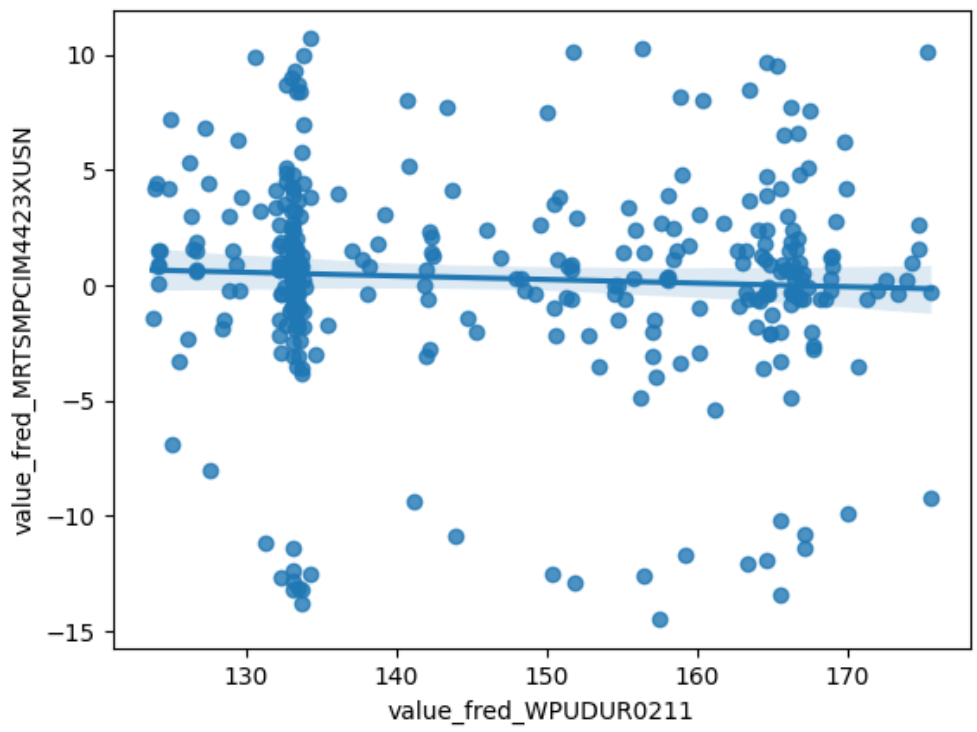


Figure 1: Regression Plot for 2024-09-18

3 Date: 2024-09-19

Series ID: CBLTCUSD

This series is titled Coinbase Litecoin and has a frequency of Daily, 7-Day. The units are U.S. Dollars and the seasonal adjustment is Not Seasonally Adjusted. The observation start date is 2016-08-17 and the observation end date is 2024-09-18. The popularity of this series is 14.

Series ID: THREEFF8

This series is titled Fitted Instantaneous Forward Rate 8 Years Hence and has a frequency of Daily. The units are Percent and the seasonal adjustment is Not Seasonally Adjusted. The observation start date is 1990-01-02 and the observation end date is 2024-09-13. The popularity of this series is 1.

3.1 Regression Tables and Plots

Dep. Variable:	value_fred_THREEFF8	R-squared:	0.002			
Model:	OLS	Adj. R-squared:	0.002			
Method:	Least Squares	F-statistic:	5.053			
Date:	Thu, 19 Sep 2024	Prob (F-statistic):	0.0247			
Time:	11:31:03	Log-Likelihood:	-2624.6			
No. Observations:	2019	AIC:	5253.			
Df Residuals:	2017	BIC:	5265.			
Df Model:	1					
Covariance Type:	nonrobust					
	coef	std err	t	P> t 	[0.025	0.975]
const	3.0640	0.035	88.434	0.000	2.996	3.132
value_fred_CBLTCUSD	-0.0008	0.000	-2.248	0.025	-0.001	-9.66e-05
Omnibus:	7.896	Durbin-Watson:	0.002			
Prob(Omnibus):	0.019	Jarque-Bera (JB):	6.394			
Skew:	-0.045	Prob(JB):	0.0409			
Kurtosis:	2.740	Cond. No.	180.			

Notes:

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

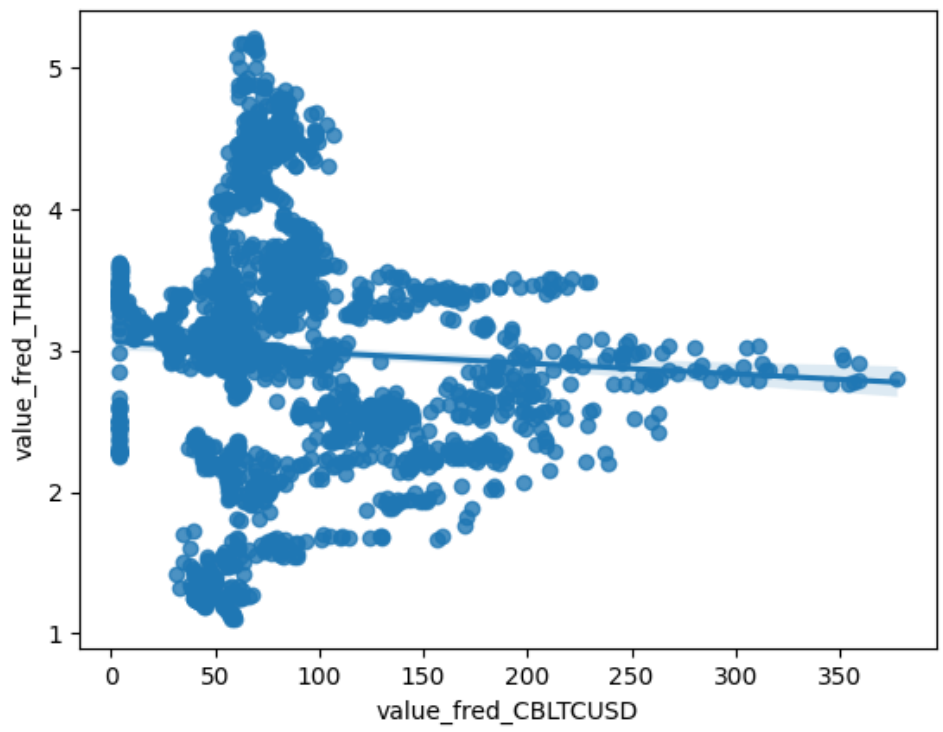


Figure 2: Regression Plot for 2024-09-19

4 Date: 2024-09-20

Series ID: G17MVSFLTRUCKS

This series is titled Regular Seasonal Factors: Light Truck Production and has a frequency of Monthly. The units are Seasonal Factor and the seasonal adjustment is Not Seasonally Adjusted. The observation start date is 1996-01-01 and the observation end date is 2025-06-01. The popularity of this series is 1.

Series ID: PRGONUPIHCSA

This series is titled Medical Services Expenditures by Provider: Nursing Homes: Proprietary and Government Nursing Homes Price Index and has a frequency of Annual. The units are Index 2017=100 and the seasonal adjustment is Not Seasonally Adjusted. The observation start date is 2000-01-01 and the observation end date is 2021-01-01. The popularity of this series is 1.

4.1 Regression Tables and Plots

Dep. Variable:	value_fred_PRGONUPIHCSA	R-squared:	0.002			
Model:	OLS	Adj. R-squared:	-0.048			
Method:	Least Squares	F-statistic:	0.04325			
Date:	Fri, 20 Sep 2024	Prob (F-statistic):	0.837			
Time:	09:34:15	Log-Likelihood:	-90.742			
No. Observations:	22	AIC:	185.5			
Df Residuals:	20	BIC:	187.7			
Df Model:	1					
Covariance Type:	nonrobust					
	coef	std err	t	P > t 	[0.025	0.975]
const	70.0979	81.638	0.859	0.401	-100.195	240.391
value_fred_G17MVSFLTRUCKS	0.1781	0.856	0.208	0.837	-1.608	1.964
Omnibus:	0.976	Durbin-Watson:	0.034			
Prob(Omnibus):	0.614	Jarque-Bera (JB):	0.765			
Skew:	-0.048	Prob(JB):	0.682			
Kurtosis:	2.091	Cond. No.	2.33e+03			

Notes:

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

[2] The condition number is large, 2.33e+03. This might indicate that there are strong multicollinearity or other numerical problems.

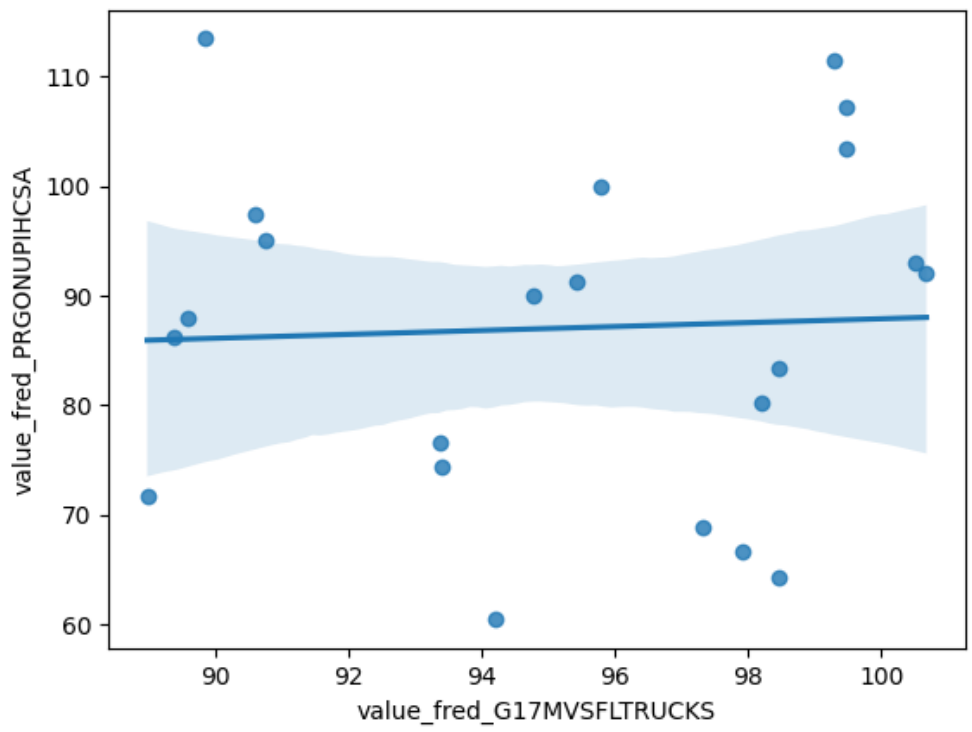


Figure 3: Regression Plot for 2024-09-20

5 Date: 2024-09-21

Series ID: MESTWHOLERQGSP

This series is titled Real Gross Domestic Product: Wholesale Trade (42) in the Mideast BEA Region and has a frequency of Quarterly. The units are Millions of Chained 2017 Dollars and the seasonal adjustment is Seasonally Adjusted Annual Rate. The observation start date is 2018-01-01 and the observation end date is 2024-01-01. The popularity of this series is 1.

Series ID: CIU2013000100000I

This series is titled Employment Cost Index: Total compensation for Private industry workers in Manufacturing; management, professional, and related occupations and has a frequency of Quarterly. The units are Index Dec 2005=100 and the seasonal adjustment is Not Seasonally Adjusted. The observation start date is 2001-01-01 and the observation end date is 2024-04-01. The popularity of this series is 2.

5.1 Regression Tables and Plots

Dep. Variable:	value_fred_CIU2013000100000I	R-squared:	0.807
Model:	OLS	Adj. R-squared:	0.798
Method:	Least Squares	F-statistic:	96.07
Date:	Sat, 21 Sep 2024	Prob (F-statistic):	1.11e-09
Time:	20:08:54	Log-Likelihood:	-62.766
No. Observations:	25	AIC:	129.5
Df Residuals:	23	BIC:	132.0
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P> t	[0.025	0.975]
const	255.8692	11.899	21.503	0.000	231.254	280.485
value_fred_MESTWHOLERQGSP	-0.0007	6.75e-05	-9.802	0.000	-0.001	-0.001

Omnibus:	20.224	Durbin-Watson:	2.138
Prob(Omnibus):	0.000	Jarque-Bera (JB):	30.570
Skew:	-1.624	Prob(JB):	2.30e-07
Kurtosis:	7.336	Cond. No.	3.38e+06

Notes:

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

[2] The condition number is large, 3.38e+06. This might indicate that there are strong multicollinearity or other numerical problems.

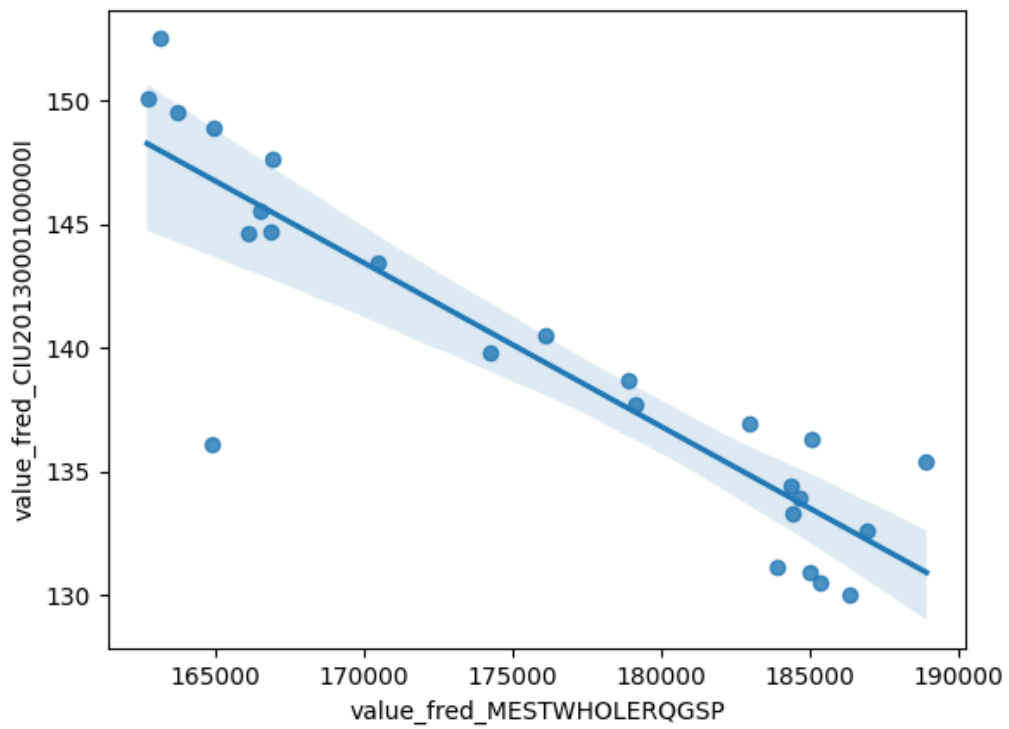


Figure 4: Regression Plot for 2024-09-21

6 Date: 2024-09-22

Series ID: DEINTDUSDDM

This series is titled German Intervention: Bundesbank Purchases on the Dollar/D-Mark (Millions of DEM) (DISCONTINUED) and has a frequency of Daily, 7-Day. The units are Millions of DEM and the seasonal adjustment is Not Seasonally Adjusted. The observation start date is 1976-01-02 and the observation end date is 1995-12-29. The popularity of this series is 2.

Series ID: USGVDDNS

This series is titled U.S. Government Demand Deposits and Note Balances - Total (DISCONTINUED) and has a frequency of Monthly. The units are Billions of Dollars and the seasonal adjustment is Not Seasonally Adjusted. The observation start date is 1959-01-01 and the observation end date is 2021-01-01. The popularity of this series is 1.

6.1 Regression Tables and Plots

Dep. Variable:	value_fred_USGVDDNS	R-squared:	0.000
Model:	OLS	Adj. R-squared:	-0.004
Method:	Least Squares	F-statistic:	0.1184
Date:	Sun, 22 Sep 2024	Prob (F-statistic):	0.731
Time:	15:34:40	Log-Likelihood:	-840.10
No. Observations:	239	AIC:	1684.
Df Residuals:	237	BIC:	1691.
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P> t	[0.025	0.975]
const	16.4059	0.530	30.930	0.000	15.361	17.451
value_fred_DEINTDUSDDM	0.0010	0.003	0.344	0.731	-0.005	0.007

Omnibus:	19.336	Durbin-Watson:	0.433
Prob(Omnibus):	0.000	Jarque-Bera (JB):	7.668
Skew:	0.162	Prob(JB):	0.0216
Kurtosis:	2.184	Cond. No.	185.

Notes:

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

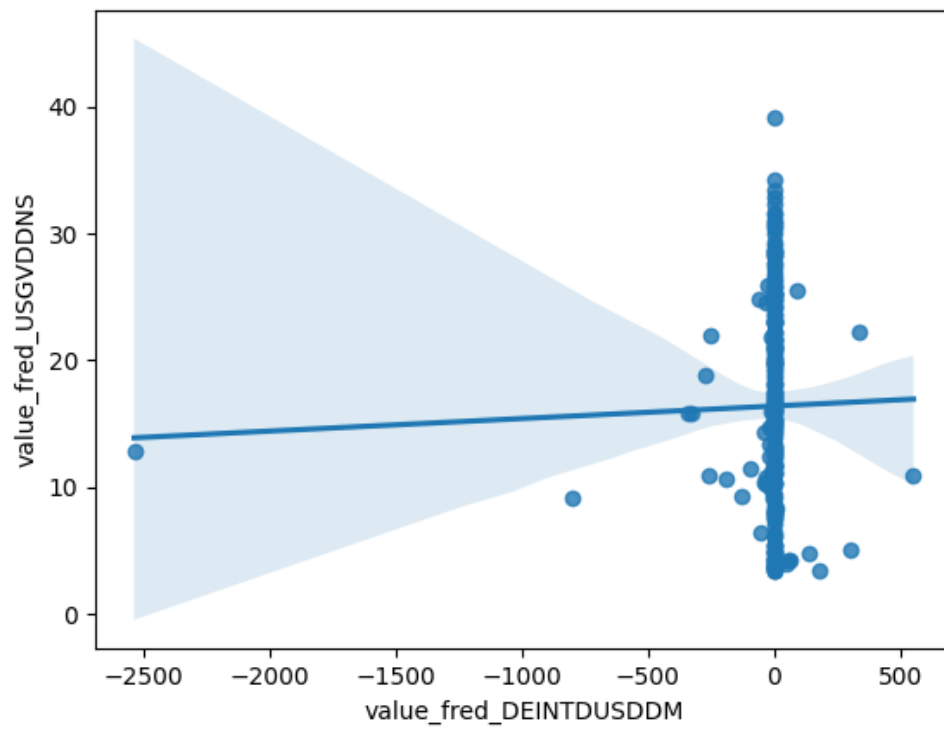


Figure 5: Regression Plot for 2024-09-22