

Forecasting Challenges in Turbulent Times

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October 12, 2025

Disclaimer: The views expressed in this presentation are my own and not necessarily those of anyone else at the Federal Reserve Bank of Atlanta or the Federal Reserve System.



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- GDPNow is a statistical model that nowcasts real GDP, and its subcomponents for the next quarter for which the BEA has not yet released a published GDP estimate.
- Real-time forecasts stored since August 2011; online forecasts have been posted since July 2014.
- Current/historical nowcasts available on the Atlanta Fed’s website, along with a [spreadsheet](#) with all of the numerical details showing exactly how the most recent nowcast is built up.
- Working paper describing methodology available at <https://www.atlantafed.org/research/publications/wp/2014/07.aspx> and changes to methodology since 2014 described in: <https://www.atlantafed.org/-/media/documents/cqer/researchcq/gdpnow/ModificationsToGDPNowModel.pdf>

Sources for U.S. GDP nowcasts

Source	Timing/frequency	GDP subcomponents	# of panelists	Individual forecasts available	Free?
Atlanta Fed GDPNow	13-14 updates a month; 6-7 releases a month	13 components (complete partition)	#N/A	#N/A	Yes
Philly Fed Survey of Professional Forecasters (SPF)	Quarterly (70-75 days before GDP release)	7 components (complete partition)	40 to 45	Yes	Yes
Wall Street Journal Forecasting Survey	Thursday after employment report in 1st month of quarter. Monthly before April 2021.	None	About 70	Yes	Yes
Blue Chip Economic Indicators	Released 10th of each month (surveyed about 80, PCE, net exports, inventories, nonres. 50 and 10 days before GDP)	fixed investment	About 50	No, but average of top and bottom 10 forecasts.	No
St. Louis Fed Economic News Index model nowcast	Every Friday	None	#N/A	#N/A	Yes
New York Fed Staff Nowcast model	Every Friday	None	#N/A	#N/A	Yes

Other resources not listed: Blue Chip Financial Forecasts, Bloomberg Monthly Forecasting Survey, Consensus Forecasts (Monthly), Proprietary forecasts

Even though consumer spending comprises nearly 70% of GDP, the standard deviation of its contribution to GDP growth from 2000 to 2019 was lower than either inventory or total investment. That changed during the pandemic, consumer spending has been a more volatile contribution to quarterly growth than investment even after discarding the first three quarters which had sectors of the economy virtually closing then reopening. That is one reason why it has become more difficult to nowcast GDP growth since the pandemic.

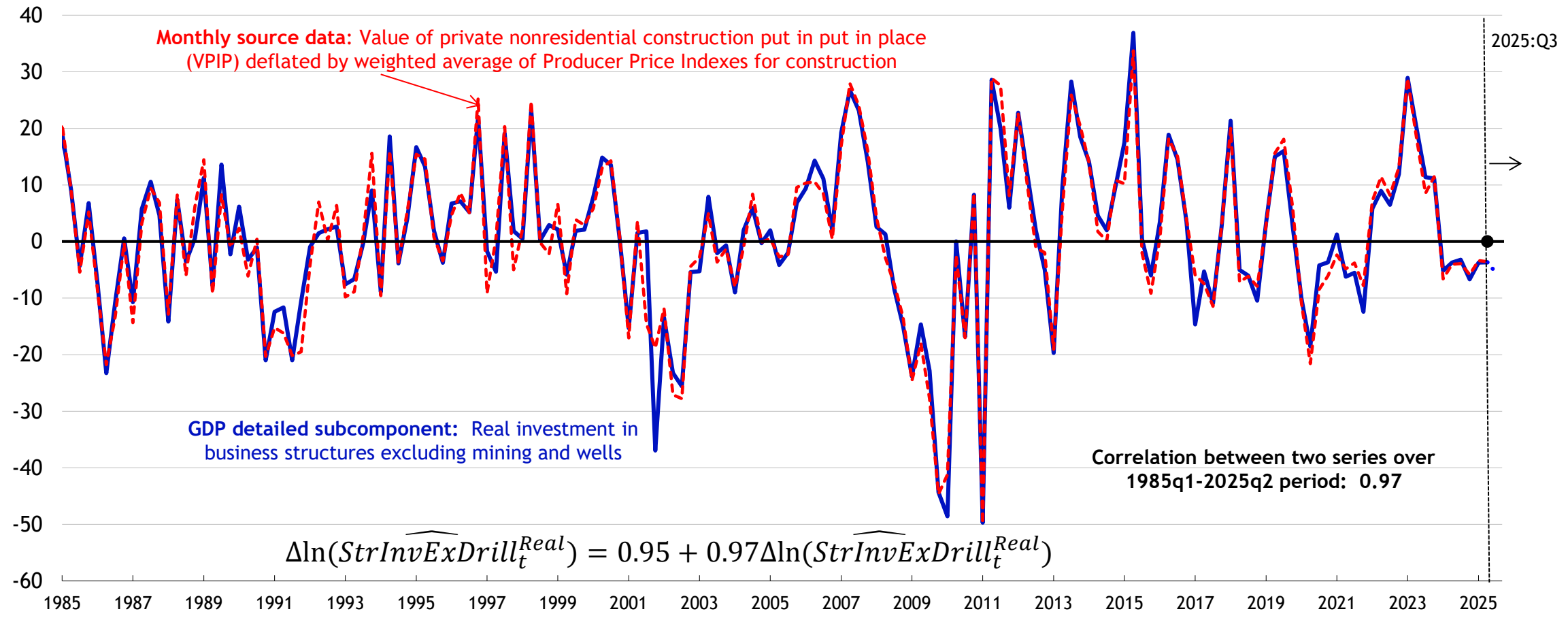
Large increase in volatility of consumption, net exports, and change in private inventories contribution relative to GDP growth and fixed investment

Subcomponents of GDP forecasted by GDPNow and source data used

	Share of 2025:Q2 nominal GDP (%)	Standard deviation of contribution to quarterly GDP growth		Correspondence between monthly source data and GDP subcomponent	Selected monthly data releases used by GDPNow to forecast subcomponent
		2000-2019	2020q4-2025q2		
Real GDP	100.0	2.31	2.14		
Consumption	68.2	1.18	2.08		Personal income and outlays
Goods	21.2	0.85	1.35	High	Retail sales, CPI, Auto sales
Services	47.0	0.56	1.30	High	Retail food service sales, IP electric & gas utilities, Imports/Exports of travel services
Investment	17.6	1.99	1.90		
Nonresidential Fixed	13.8	1.00	0.56		
Structures	2.9	0.43	0.29	High	Construction spending, Oil drilling from Industrial production
Equipment	5.3	0.67	0.38	Medium	Manufacturers' shipments , Capital goods exports/imports, PPI, Auto sales
Intellectual Property Products	5.5	0.21	0.24	Low	Payroll employment in related industries
Residential	3.9	0.57	0.52	High	Housing starts, New/existing home sales and costs/prices, Construction spending, Selected retail sales, Mobile home shipments
Change in Private Inventories	-0.2	1.33	1.87	Medium	Wholesale+retail+manufacturer inventories in various monthly reports
Net Exports	-3.0	0.86	1.81	Medium	Monthly foreign trade, Import/Export prices
Exports	10.7	0.94	0.88		
Goods	6.8	0.80	0.73		Advance Economic Indicators
Services	3.9	0.29	0.24		
Imports	13.7	1.23	1.95		
Goods	10.8	1.17	1.89		Advance Economic Indicators
Services	2.9	0.21	0.28		
Government spending	17.2	0.52	0.54		
Federal	6.4	0.37	0.44	Medium to Low	Treasury Statement, Fed. Govt. Empl., Constr. spending (Federal)
State+Local	10.8	0.32	0.24	Medium	S+L Government employment, Construction spending

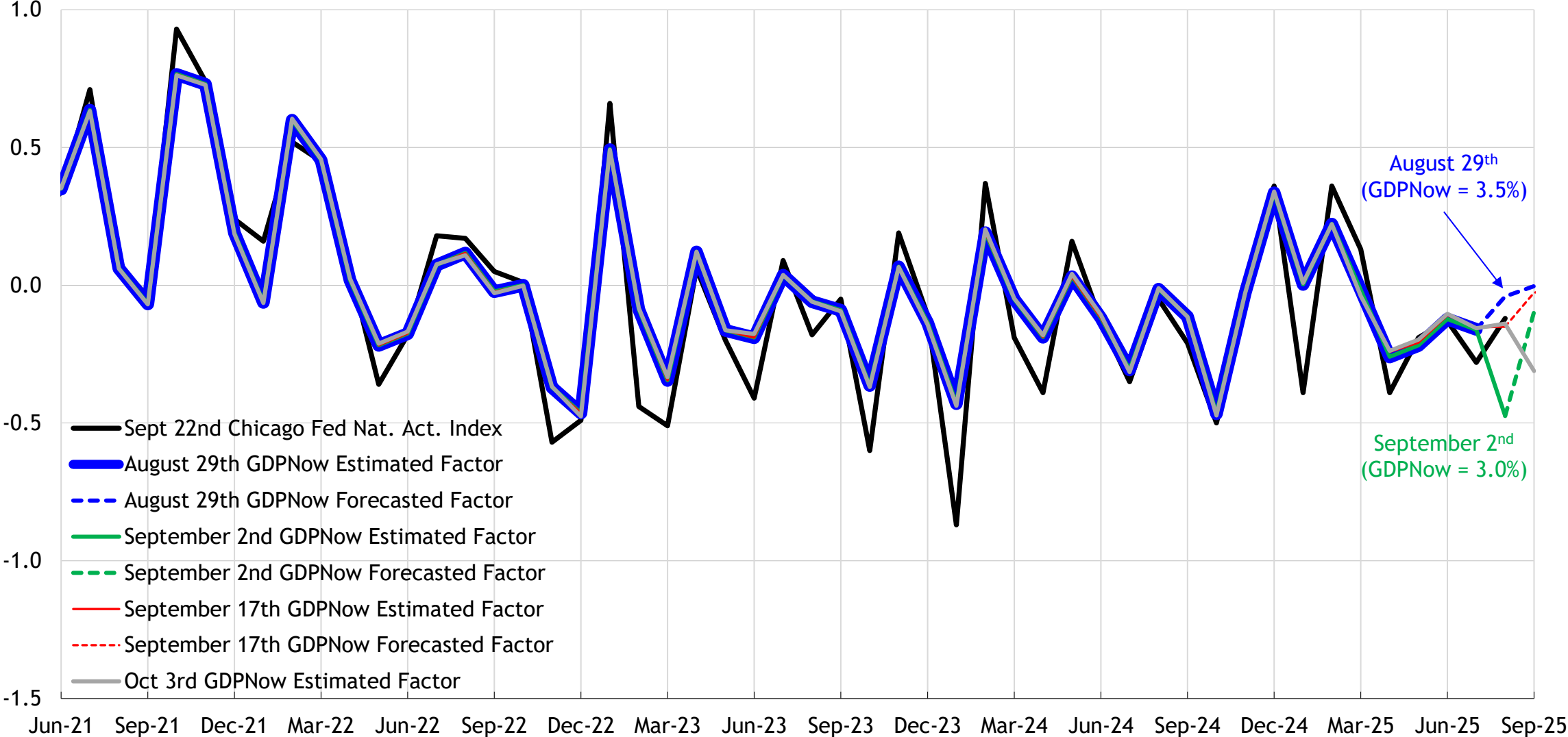
The chart below illustrates that the growth rate for real business structures investment excluding mining and wells is very highly correlated with the growth rate constructed from the monthly source data. Since we get most of the latter before the first GDP release we can make a fairly accurate forecast of the former using a so-called simple “bridge equation”. The model is projecting a modest decline in Q3 based on an extension of the available data through July 2025.

Real investment and construction spending on business structures excluding mining and wells
 Quarterly, Annualized logarithmic percent change



The solid blue line below represents the August 29th GDPNow estimate of its dynamic factor which ended in July. It is highly correlated with the Chicago Fed National Activity Index. The dashed blue lines extends the estimate to September with the forecasted factor. After the September 2nd ISM Manufacturing release, the estimate of the factor was extended to August. This estimate was well below the previous forecast, which is part of the reason why the GDPNow forecast fell that day. Its August value ultimately recovered and rose back up to close to the CFNAI value.

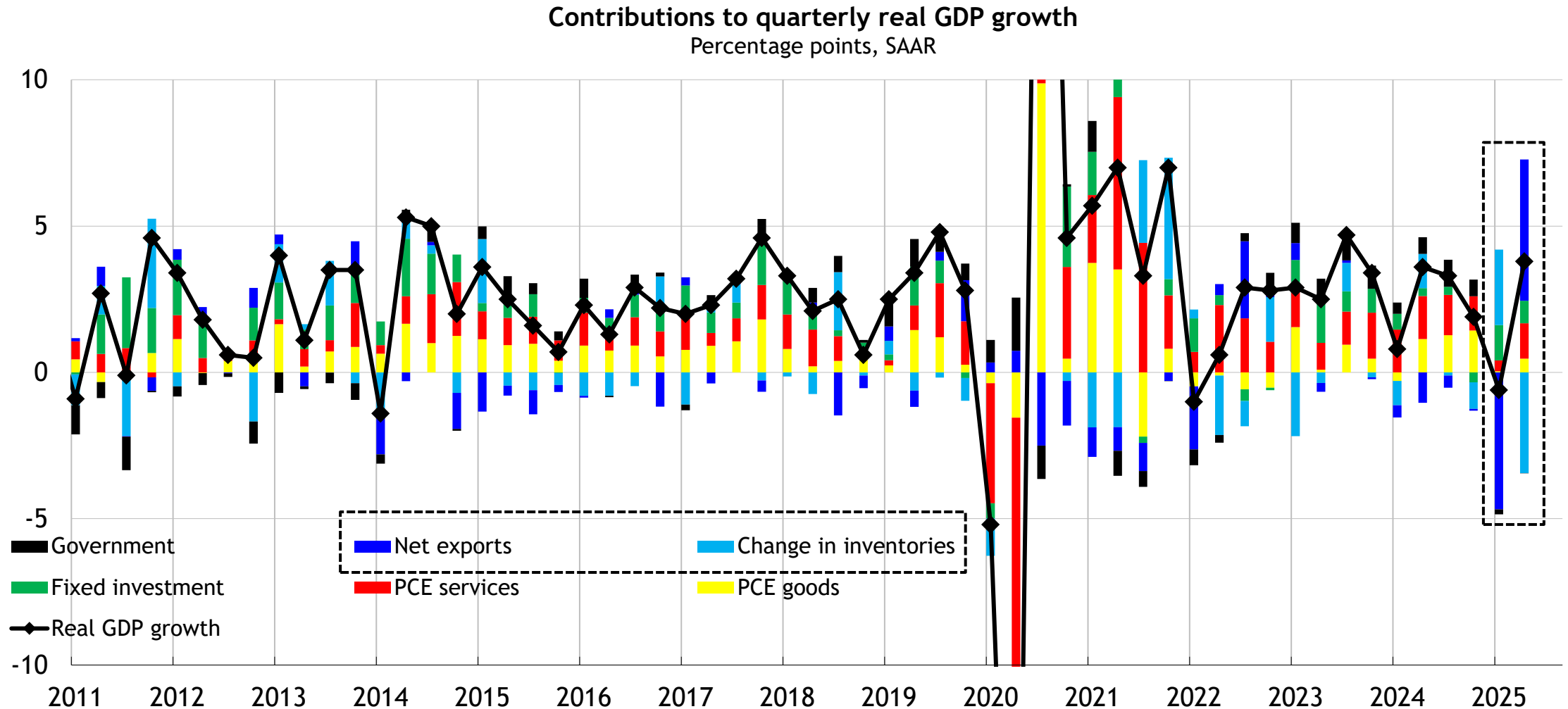
Evolution of recent factor-model estimates of economic momentum
 Indices (Average=0, Standard deviation=1)



Sources: Federal Reserve Bank of Chicago, Federal Reserve Bank of Atlanta and Haver Analytics.

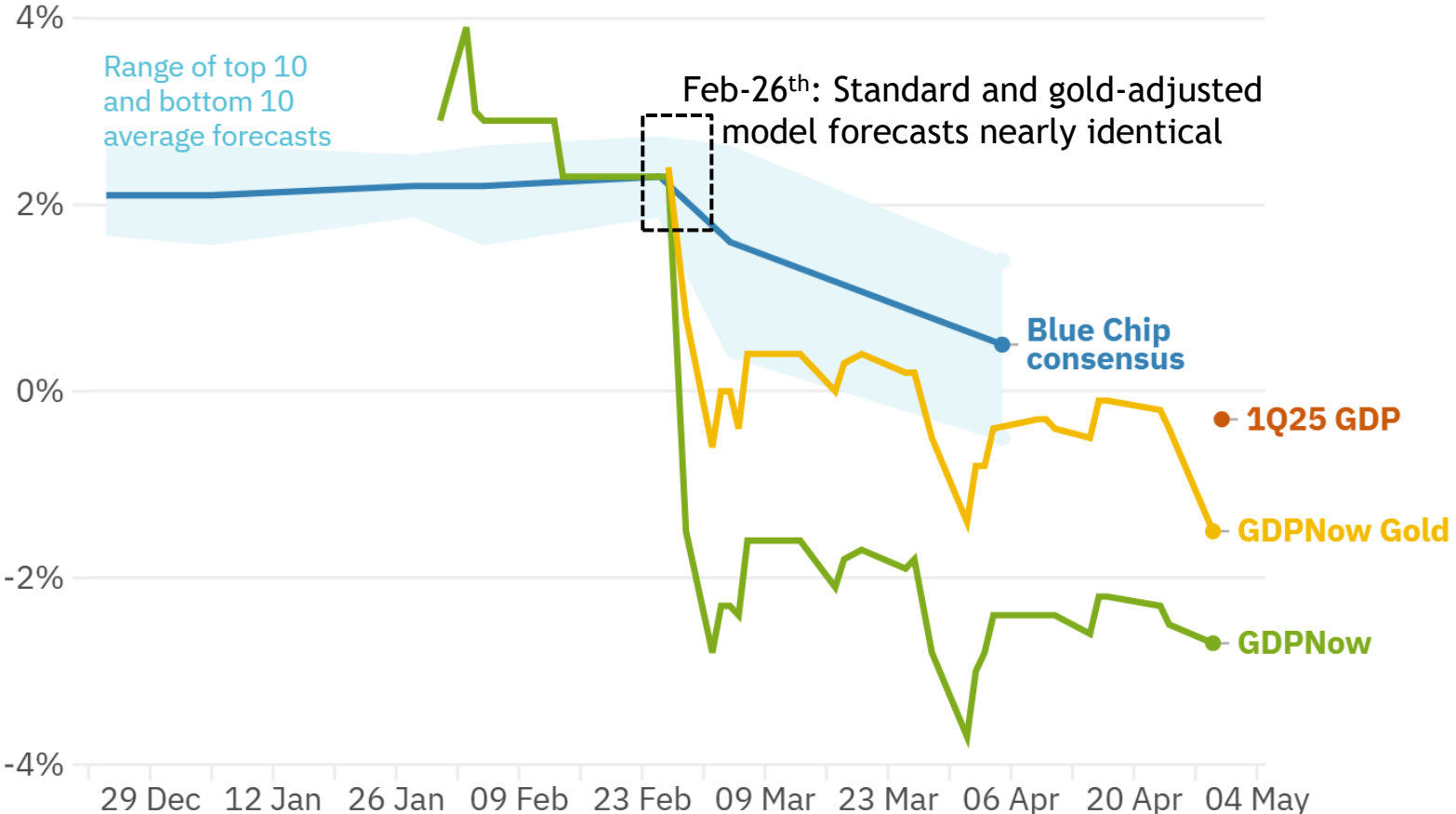
	A	B	C	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
			31-Jul	21-Aug	25-Aug	26-Aug	29-Aug	2-Sep	3-Sep	4-Sep	5-Sep	10-Sep	11-Sep	16-Sep	17-Sep	24-Sep	26-Sep	1-Oct	3-Oct
2	Evolution of GDP nowcast and components for 2025q3																		
3		1-Personal consumption expenditures (PCE)	1.9	2.2	2.2	2.2	2.3	1.7	1.7	2.1	2.3	2.3	2.3	2.7	2.7	2.7	3.4	3.2	3.2
4		2- PCE Goods**	1.9	3.6	3.6	3.6	3.3	2.1	2.1	2.2	2.6	2.6	2.6	4.1	4.1	4.1	4.8	4.5	4.3
5		3- PCE Services**	1.9	1.6	1.6	1.6	1.8	1.6	1.6	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.7	2.7	2.7
6		4-Gross Private Domestic Investment (GPDl)	6.1	4.8	4.4	4.4	6.1	5.3	5.3	6.0	6.2	6.2	6.1	6.9	6.4	6.8	4.1	4.2	4.0
7		5- Fixed Investment	2.5	0.6	0.2	0.5	2.6	1.8	1.8	2.6	2.9	3.0	3.0	3.3	2.8	3.2	1.8	2.0	1.9
8		6- Nonresidential	2.7	2.7	2.7	3.1	5.9	4.0	4.0	4.9	5.2	5.3	5.3	5.6	5.5	5.5	3.7	4.1	3.9
9		7- Equipment**	2.6	3.8	3.7	4.8	11.7	8.9	8.9	11.0	11.7	11.8	11.8	12.0	11.9	11.9	7.2	8.2	7.9
10		8- Intellectual Property Products**	5.5	5.0	5.0	5.0	5.5	5.3	5.3	5.4	5.3	5.3	5.3	5.3	5.3	5.3	5.4	5.4	5.4
11		9- Structures**	-2.3	-3.5	-3.5	-3.5	-3.5	-6.8	-6.8	-6.6	-6.2	-6.0	-6.0	-5.1	-5.1	-5.1	-5.3	-5.5	-5.6
12		10- Residential**	1.8	-6.3	-8.2	-8.2	-8.2	-5.6	-5.6	-5.2	-4.7	-4.8	-4.8	-4.6	-6.3	-4.7	-4.6	-4.9	-5.1
13		11-Government expenditures	1.7	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.6	1.6	1.6	1.6	1.8	1.8	1.8
14		12- Federal**	1.0	1.0	1.0	1.0	1.3	1.4	1.4	1.4	1.3	1.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9
15		13- State and Local**	2.1	1.7	1.7	1.7	1.6	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7
16		14-Imports	8.5	8.5	8.5	8.5	1.8	-0.1	-0.1	2.4	3.2	3.3	3.3	4.3	4.2	4.3	-1.5	-1.8	-2.1
17		15- Goods**	10.2	10.0	10.0	10.0	1.4	-0.8	-0.8	1.5	2.4	2.5	2.5	3.6	3.5	3.6	-3.9	-4.2	-4.5
18		16- Services**	2.2	2.7	2.7	2.7	3.1	2.7	2.7	6.1	6.4	6.4	6.4	7.1	7.1	7.1	7.5	7.4	7.3
19		17-Exports	7.8	7.2	7.2	7.2	7.9	6.4	6.4	5.7	6.3	6.3	6.3	6.2	6.2	6.2	3.4	3.1	2.9
20		18- Goods**	9.8	9.7	9.7	9.7	10.7	8.5	8.5	8.3	9.1	9.2	9.1	9.0	9.0	9.0	4.8	4.3	4.0
21		19- Services**	4.2	2.9	2.8	2.8	3.1	2.8	2.8	1.2	1.4	1.4	1.4	1.3	1.3	1.3	1.1	1.0	0.9
22		20-Net Exports (current, \$Bil 2017)	-1052	-1055	-1055	-1055	-994	-987	-987	-1014	-1018	-1018	-1018	-1028	-1027	-1028	-1021	-1021	-1020
23		21-Net Exports (previous, \$Bil 2017)	-1026	-1026	-1026	-1026	-1029	-1029	-1029	-1029	-1029	-1029	-1029	-1029	-1029	-1029	-1058	-1058	-1058
24		Change in net exports (\$Bil 2017)	-26	-29	-29	-29	35	42	42	15	11	11	11	1	2	1	37	37	38
25																			
26		Previous change in private inventories (\$Bil 2017)	-6	-13	-13	-11	-14	-14	-13	-13	-13	-13	-13	-13	-13	-13	-18	-18	-18
27		Current change in private inventories (\$Bil 2017)**	30	30	30	29	20	21	22	21	19	19	18	23	23	23	4	3	3
28		Change in inventory investment (\$Bil 2017)	36	43	43	40	34	35	35	34	32	32	31	36	36	36	23	22	22
29	Note: 13 Distinct GDP subcomponents forecasted by GDPNow indicated by **.																		
30	Inventory investment is included in GPDl.																		
31		GDP Nowcast	2.3	2.2	2.2	2.2	3.5	3.0	3.0	3.0	3.1	3.1	3.1	3.4	3.3	3.4	3.9	3.8	3.8
32		Final Sales	1.7	1.5	1.4	1.5	2.9	2.4	2.4	2.4	2.5	2.5	2.6	2.8	2.7	2.8	3.5	3.5	3.4
33		Final Sales to Domestic Purchasers	2.0	1.8	1.7	1.8	2.2	1.7	1.7	2.1	2.2	2.2	2.3	2.6	2.5	2.6	2.8	2.8	2.7
34		Final Sales to Private Domestic Purchasers	2.0	1.9	1.8	1.9	2.3	1.8	1.8	2.2	2.4	2.4	2.4	2.8	2.7	2.8	3.0	3.0	2.9
35																			


Much of the action in GDP growth contributions in the first two quarters this year was in net exports and change in private inventories.



The gold-adjusted model forecast for 2025:Q1 GDP growth wasn't introduced until March 6th, more than a month after the standard model's initial forecast for that quarter. However, the two model forecasts were nearly identical on February 26th, when the gold distortions to net exports weren't fully reflected in the BEA/Census Bureau international trade data yet.

Figure 1: Evolution of Atlanta Fed GDPNow real estimate for 2025:Q1 quarterly percent change | SAAR

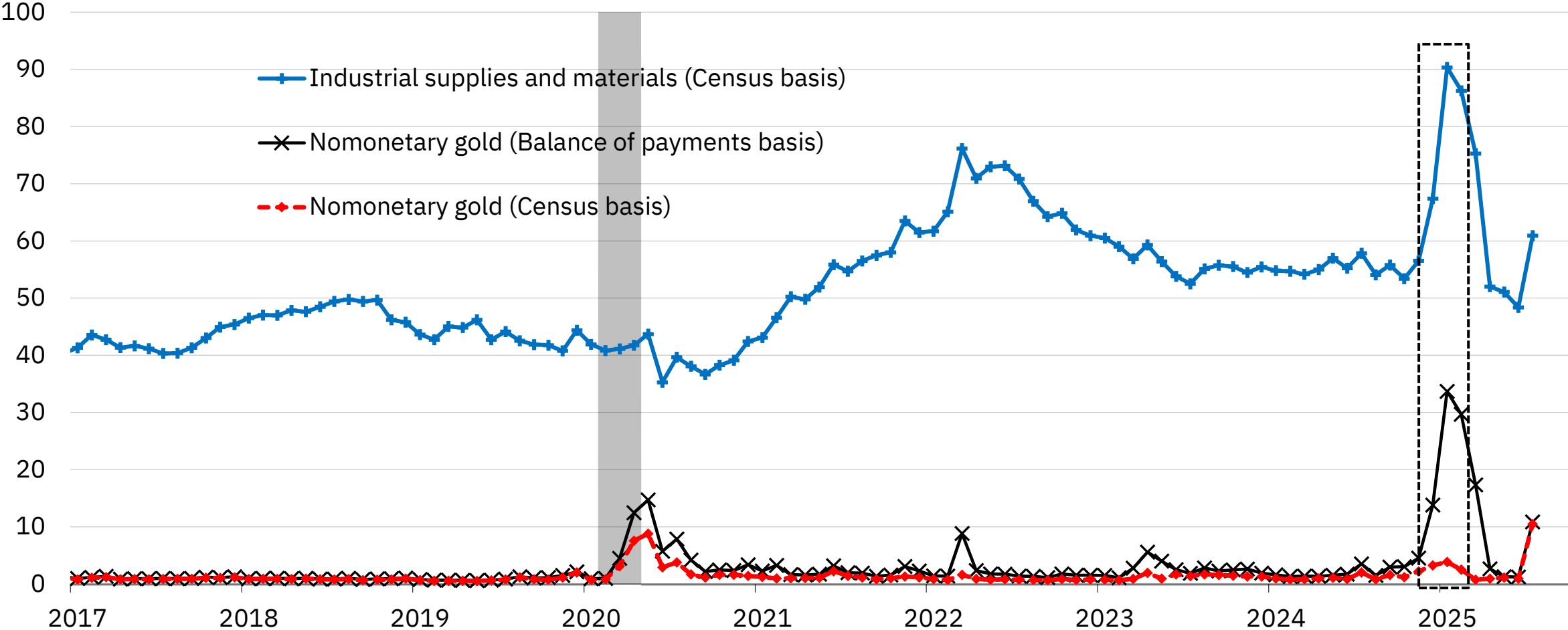


Source: [Bureau of Economic Analysis](#), [Blue Chip Economic Indicators](#) and [Blue Chip Financial Forecasts](#) • The top (bottom) 10 average forecast is an average of the highest (lowest) 10 forecasts  Federal Reserve Bank of Atlanta in Blue Chip survey.

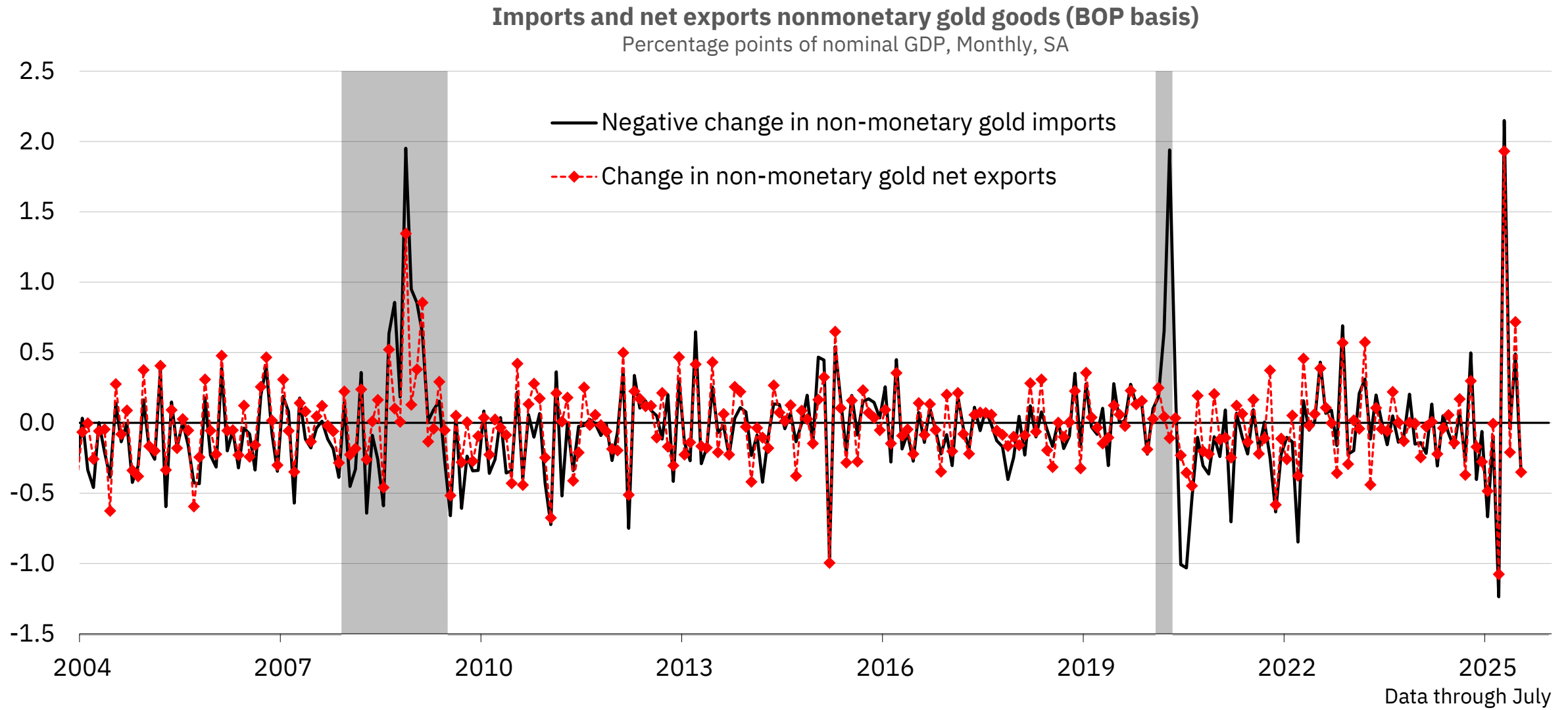
Gold imports surged in January, but only when measured on a “balance of payments” basis not on a Census basis. Somewhat confusingly, imports of gold bars are classified as “special metal shapes” on a Census basis and not as gold. In either case, gold imports fall within “industrial supplies and materials”. Data on those imports is released in the so-called “Advance Economic Indicators” report while gold imports data are first released one-week later in the full trade report.

Imports of nonmonetary gold and industrial supplies and materials

\$Billions, Monthly, SA

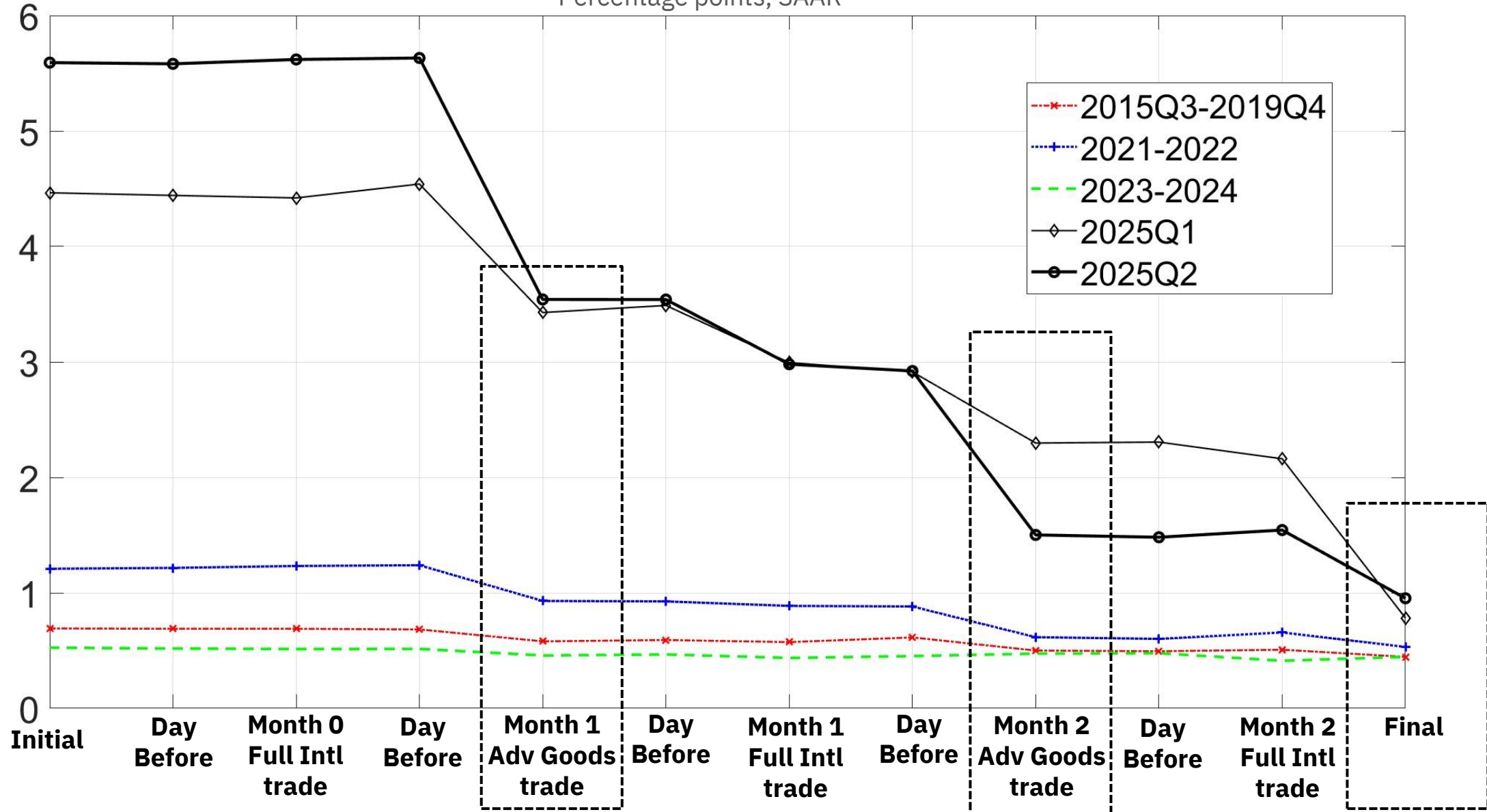


Even after removing gold, much more of the volatility in monthly international goods trade comes from imports than from exports.



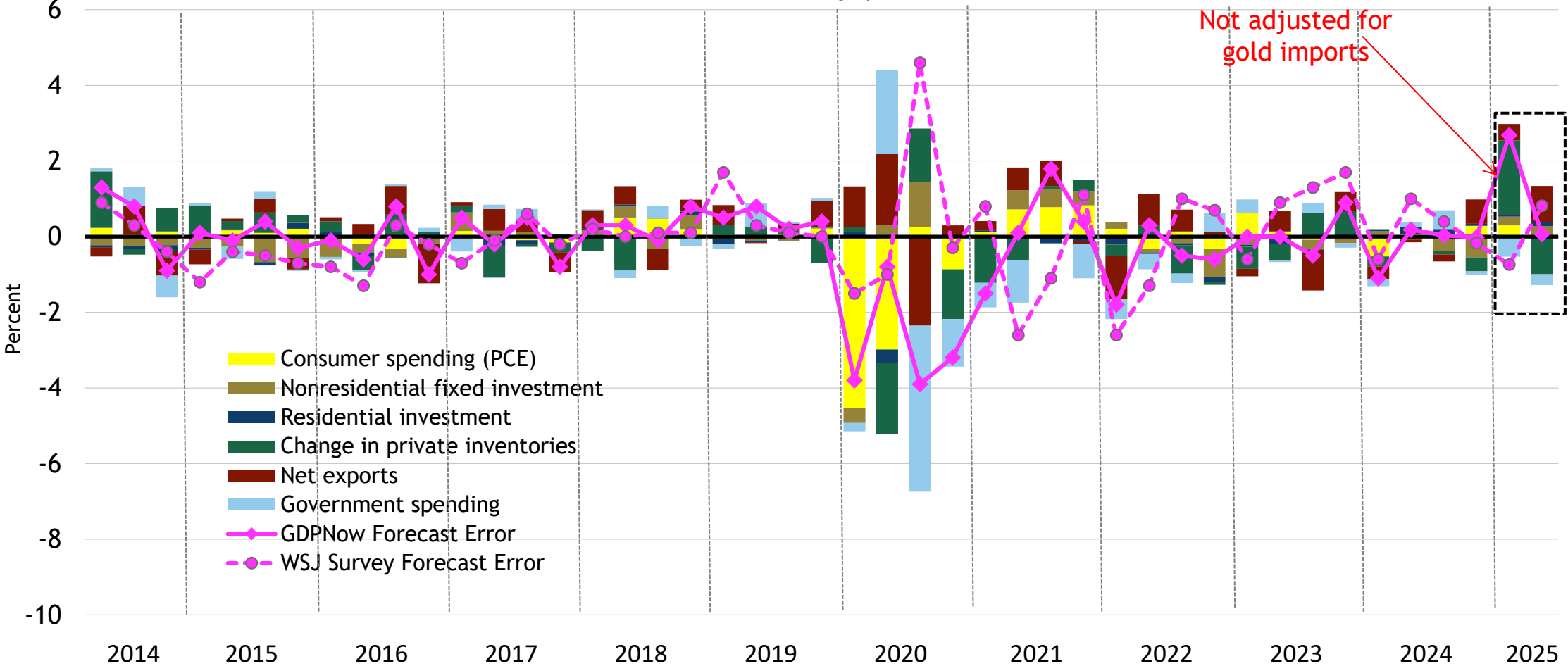
GDPNow forecasts for the contribution of net exports to quarterly 2025:Q1 and 2025:Q2 real GDP growth were considerably less accurate than normal at each information set level. The biggest improvements were still around “advance” foreign trade reports.

Average absolute forecast error for contribution of net exports to quarterly real GDP growth
 Percentage points, SAAR



The forecast error for the final GDPNow forecast of 2025:Q1 real GDP growth was its largest in absolute terms since 2020.

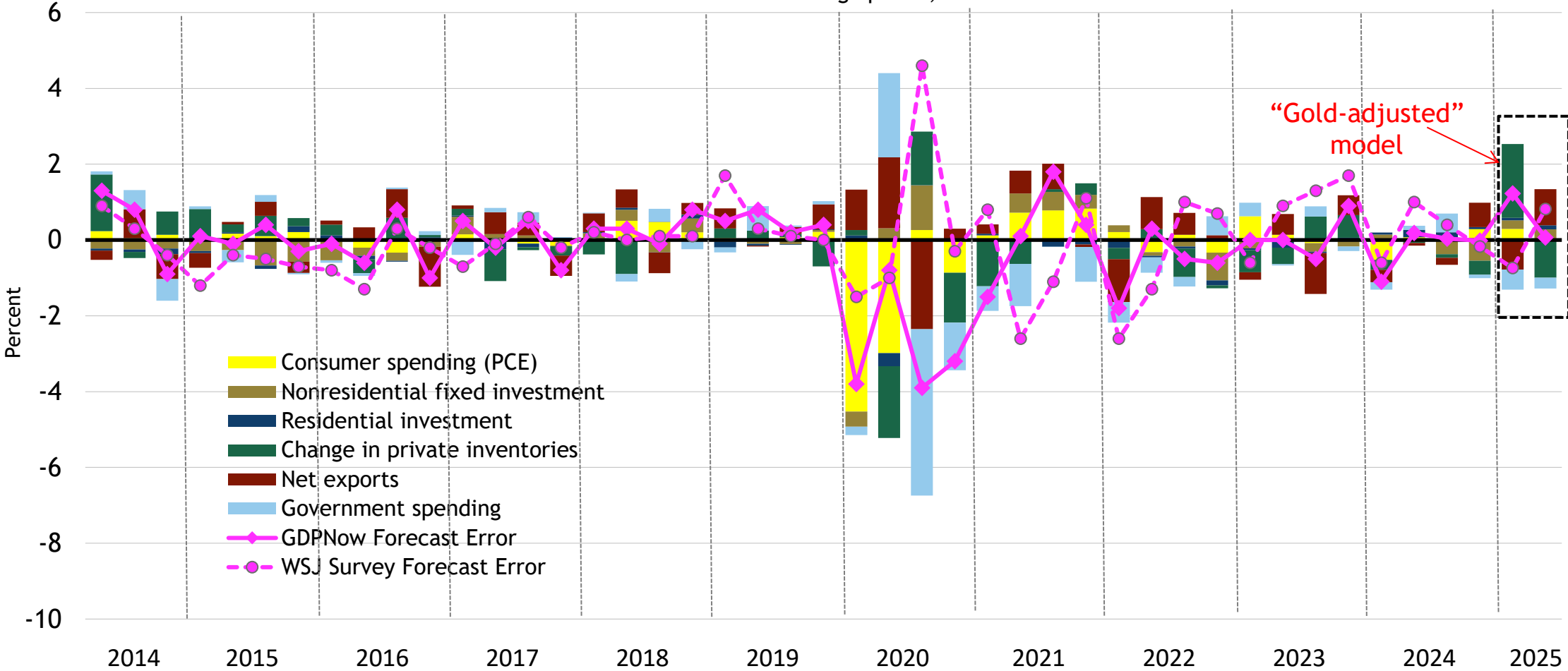
Stacked final GDPNow forecast errors to GDP subcomponent contributions to growth
Percentage points, SAAR



Note: Forecast errors based on initial BEA estimates of GDP growth. Bars depict positive and negative forecast errors of subcomponent contributions to seasonally adjusted annualized real GDP growth. Lines are forecast errors of GDP growth. Sources: US Bureau of Economic Analysis, the Federal Reserve Bank of Atlanta, Wall Street Journal Economic Forecasting Survey, and Haver Analytics

The forecast error for the “gold-adjusted” version of the model introduced in early April was smaller in than the standard model, but still noteworthy.

Stacked final GDPNow forecast errors to GDP subcomponent contributions to growth
Percentage points, SAAR

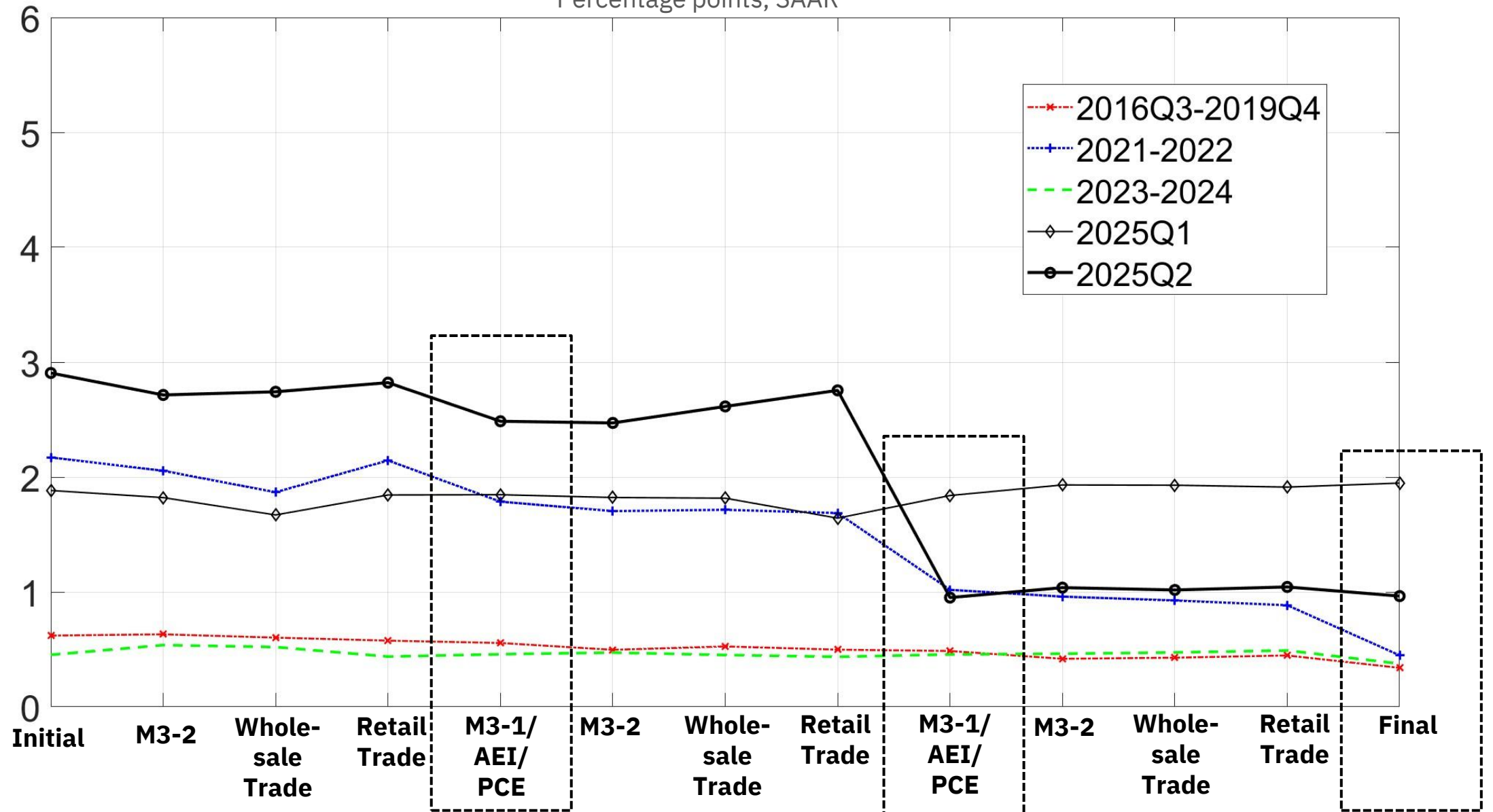


Note: Forecast errors based on initial BEA estimates of GDP growth. Bars depict positive and negative forecast errors of subcomponent contributions to seasonally adjusted annualized real GDP growth. Lines are forecast errors of GDP growth. Sources: US Bureau of Economic Analysis, the Federal Reserve Bank of Atlanta, Wall Street Journal Economic Forecasting Survey, and Haver Analytics

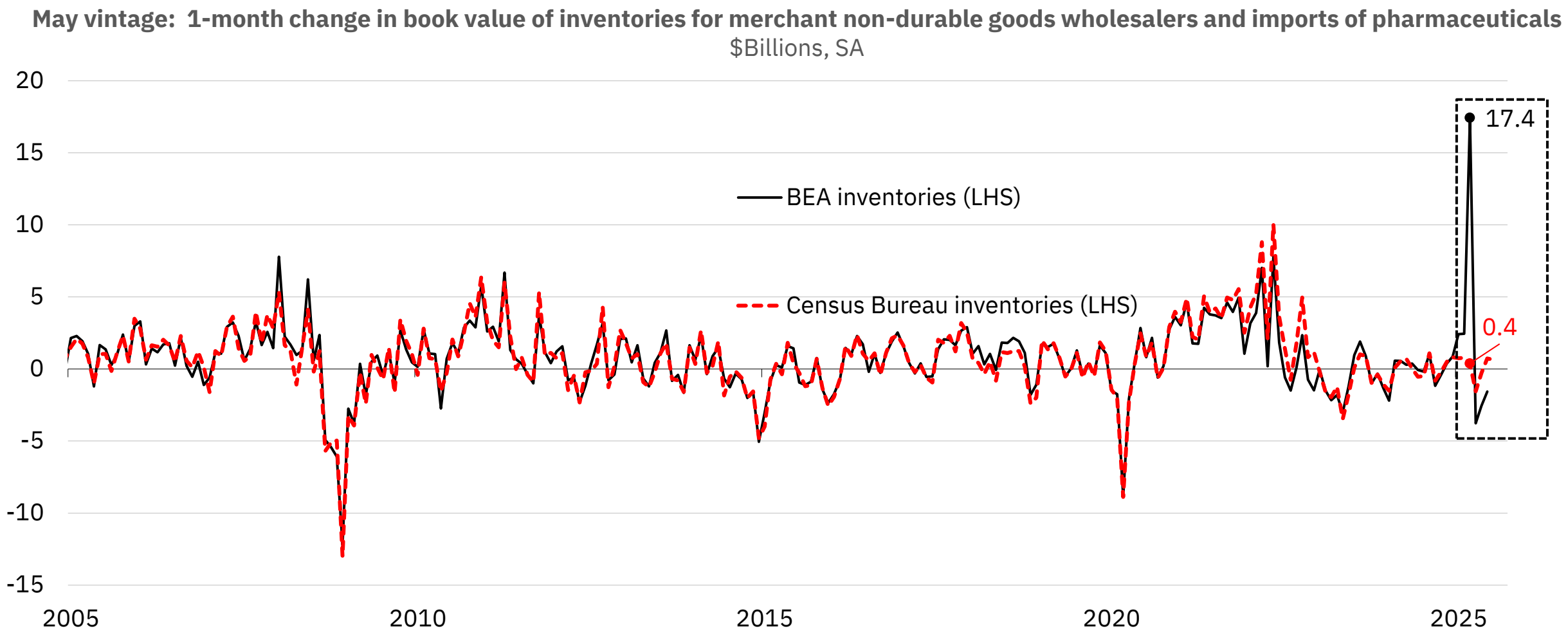
The forecasts for the CIPI contributions 2025:Q1 and 2025:Q2 real GDP growth were both less accurate than usual, though the difference was not as stark as for net exports and they were comparable to the 2021-22 errors. Improvements still occurred near the end of each month when the only release left with inventories source data (in some cases) is the Advance Economic Indicators report.

Average absolute forecast error for contribution of change in private inventories to quarterly real GDP growth

Percentage points, SAAR



The red dashed line almost always lies nearly on top of the black line before March 2025. GDPNow exploits this to anticipate revisions to the last published “change-in-private” estimate with revisions in the Census Bureau data. But a large difference emerged in the last month of Q1 meaning the revision anticipation has recently been a bug, not a feature.



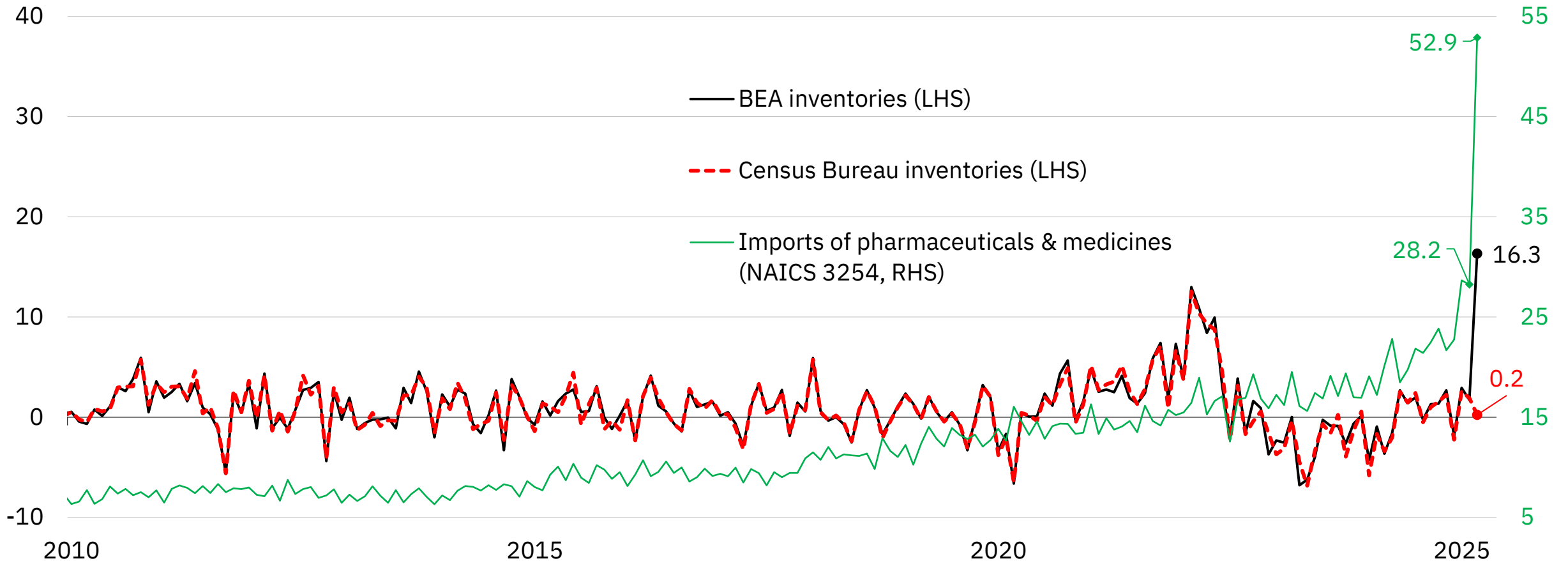
April 30, 2025 GDP News Release

*“The largest contributor to the increase in investment was private inventory investment, led by an increase in **wholesale trade (notably, drugs and sundries)**. The estimates of private inventory investment were based primarily on Census Bureau inventory book value data and a **BEA adjustment** in March to account for a notable increase in imports.”*

The red dashed line almost always lies nearly on top of the black line before March 2025. But a large difference emerges in the last month of Q1.

May vintage: 1-month change in book value of inventories for merchant non-durable goods wholesalers and imports of pharmaceuticals

Billions, SA

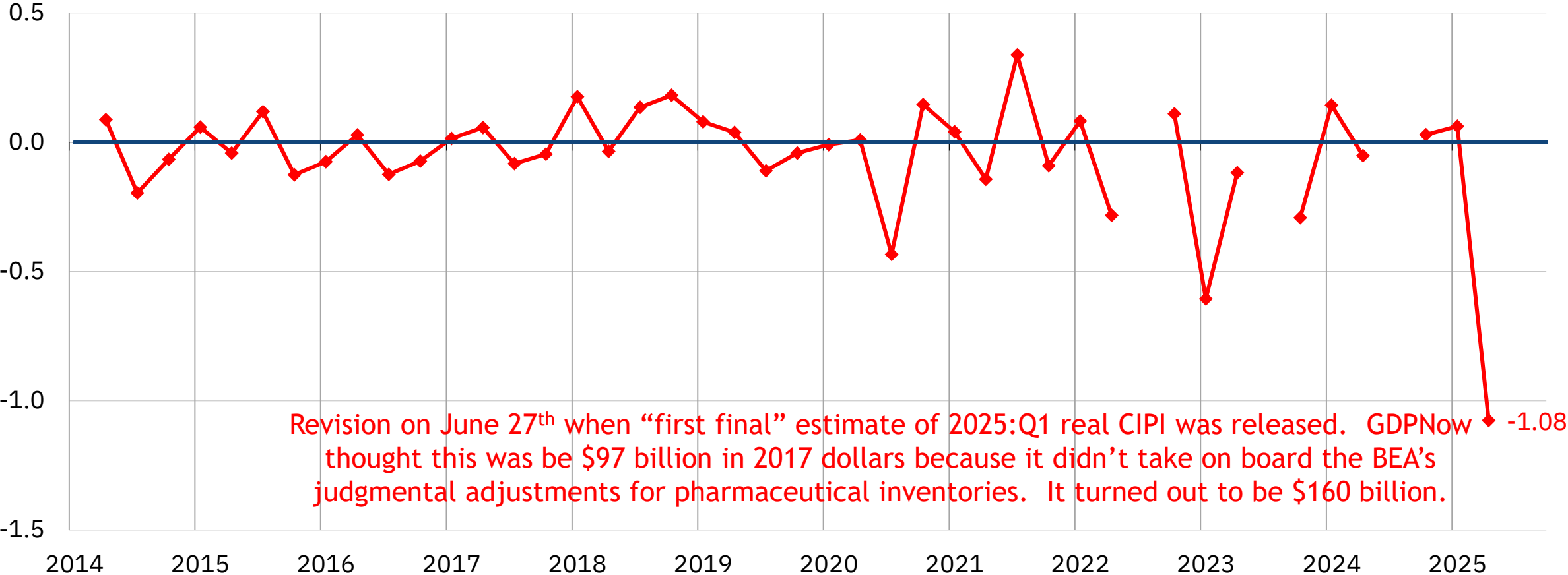


Note: Data through March 2025.

Sources: US Census Bureau, Bureau of Economic Analysis, and Haver Analytics.

GDPNow anticipates revisions to the prior quarter real change in private inventories based on revisions to the Census Bureau book value of inventories data. But it missed badly in June in large part because it couldn't account for the BEA's judgmental adjustments to inventories in light of the surge in pharmaceutical imports.

Scaled revision to GDPNow's prior quarter estimate of real change in private inventories in first update on or just after 3rd GDP release dates
-4 times share of real GDP (Percentage points)

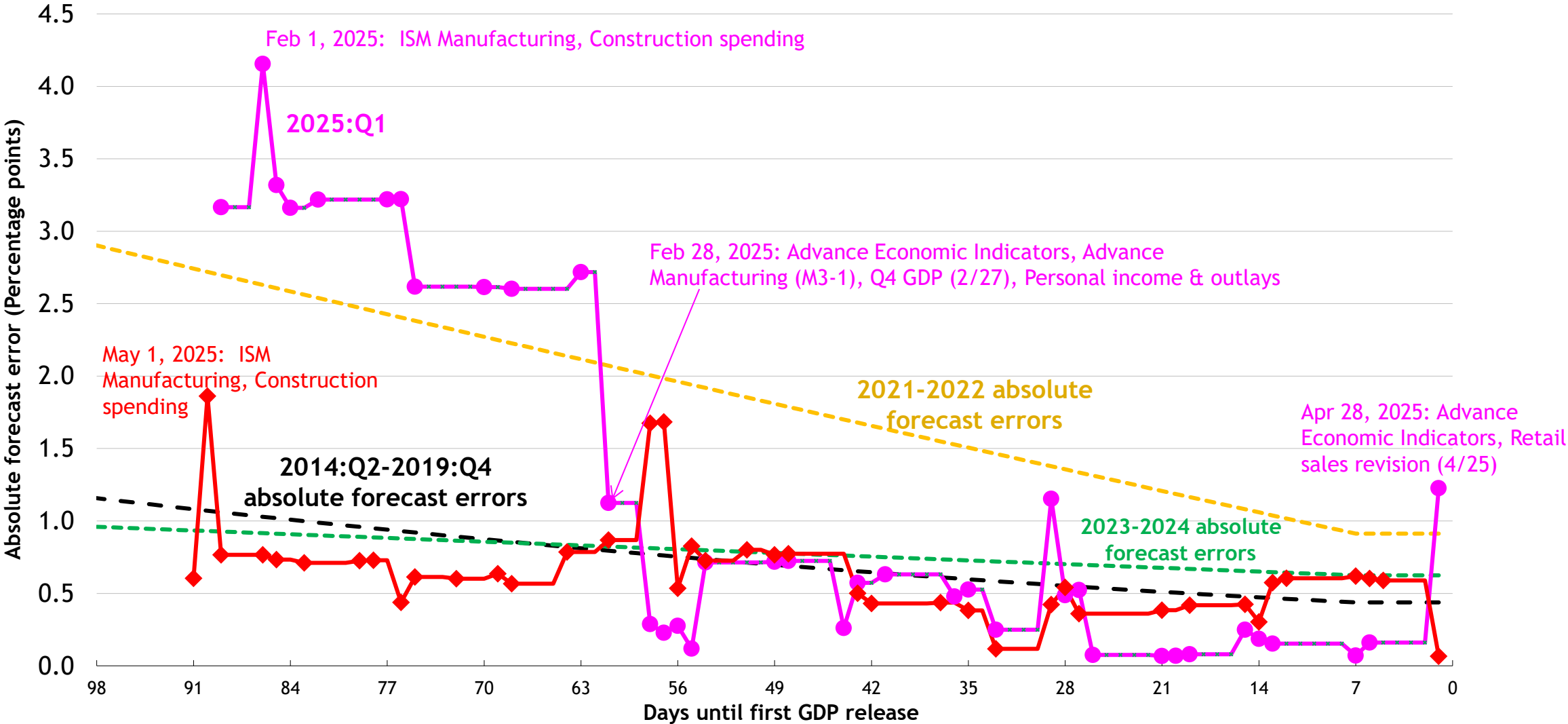


Revision on June 27th when “first final” estimate of 2025:Q1 real CIPI was released. GDPNow thought this was be \$97 billion in 2017 dollars because it didn't take on board the BEA's judgmental adjustments for pharmaceutical inventories. It turned out to be \$160 billion.

Note: Data through March 2025.
Sources: US Census Bureau, Bureau of Economic Analysis, and Haver Analytics.

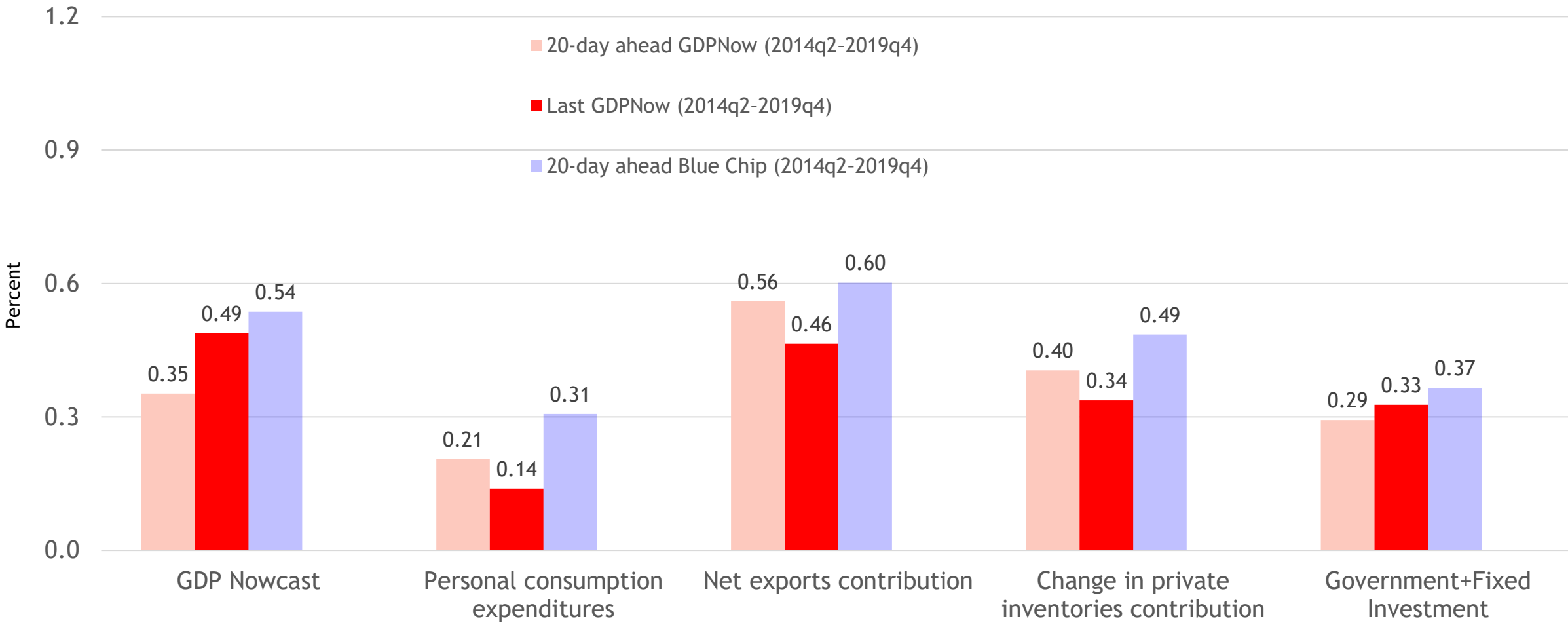
GDPNow was less accurate forecast 2021-22 GDP growth rates than either pre-pandemic rates or 2023-24. Even using the gold-adjusted model, the forecasts were unusually inaccurate from January 31, 2025 to February 27, 2025.

Accuracy of GDPNow as a function of the days until the GDP release



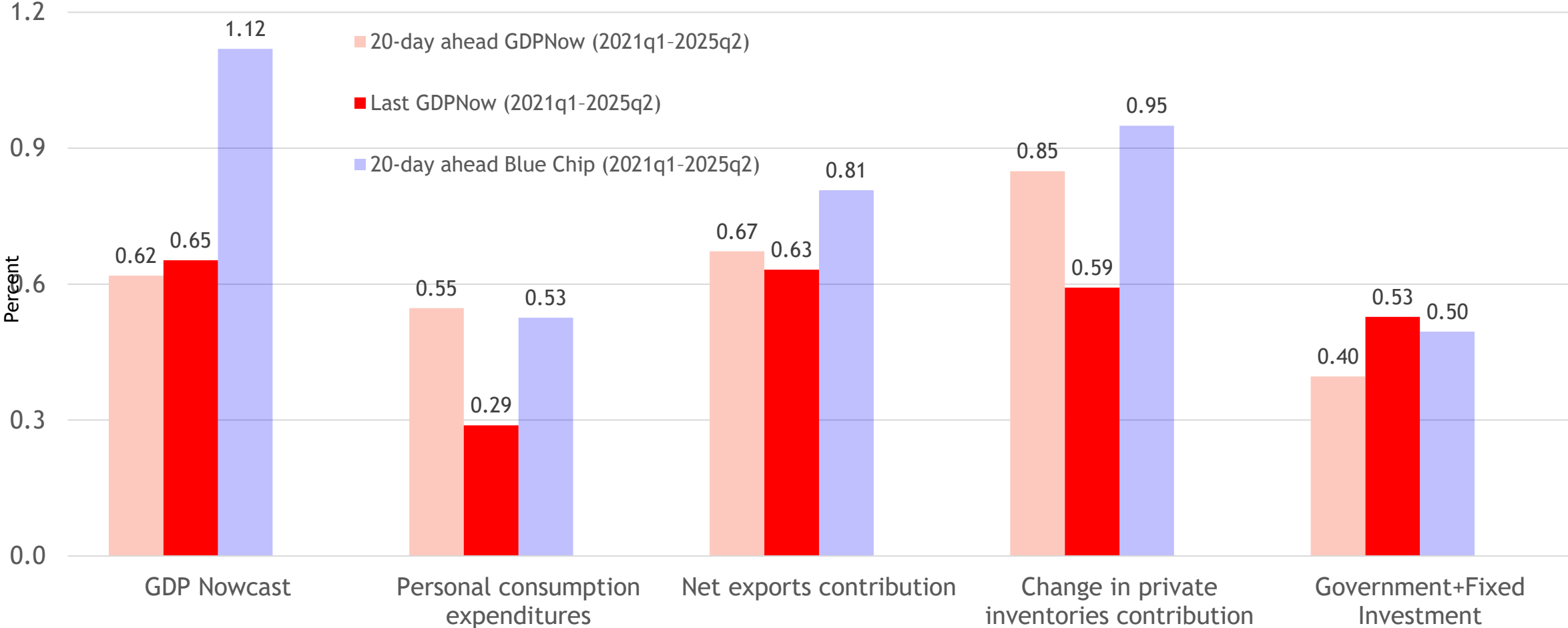
Sources: Bureau of Economic Analysis, Federal Reserve Bank of Atlanta and Haver Analytics.

GDP Subcomponent Average Absolute Forecast Errors for 20-Day-Ahead GDPNow and Blue Chip Economics Indicators Projections of Contributions to Growth: 2014:Q2 – 2019:Q4



Note: Contributions for Blue Chip have been calculated. Quarters where annual revision is the first GDP release - the second quarters of 2014-2019 - have been omitted because net exports and change in inventories contributions cannot be calculated without making an assumption of how the Blue Chip forecasters would have anticipated the revision. 2018:Q4 omitted due to government shutdown.
 Sources: US Bureau of Economic Analysis, Wolters Kluwer, Haver Analytics, and authors' calculations.

GDP Subcomponent Average Absolute Forecast Errors for 20-Day-Ahead GDPNow and Blue Chip Economics Indicators Projections of Contributions to Growth: 2021:Q1 – 2025:Q2

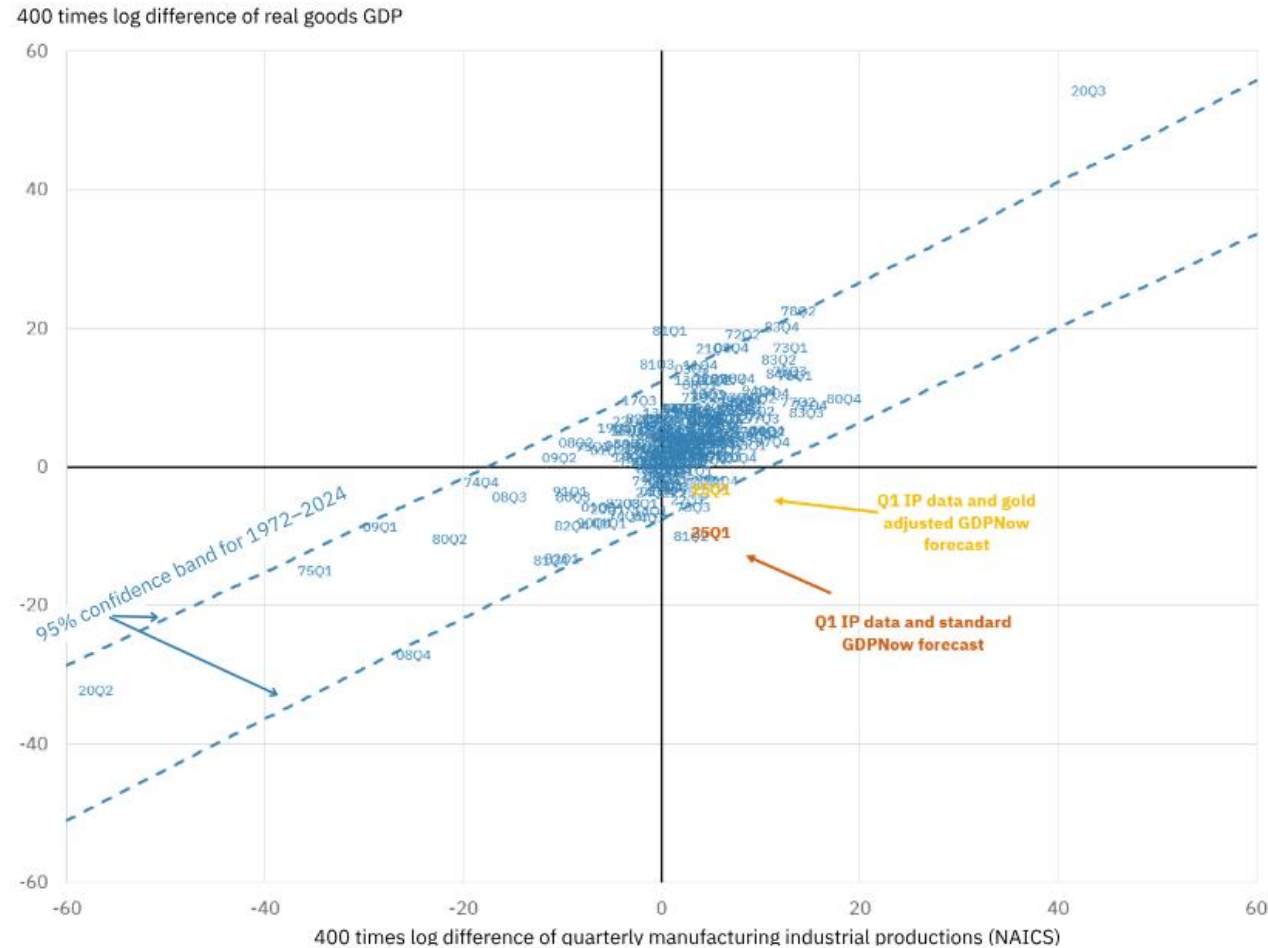


Note: Contributions for Blue Chip have been calculated. 2021:Q2 where annual revision was the first GDP release has been omitted because net exports and change in inventories contributions cannot be calculated without making an assumption of how the Blue Chip forecasters would have anticipated the revision.

Sources: US Bureau of Economic Analysis, Wolters Kluwer, Haver Analytics, and authors' calculations.

The chart on the left taken from my April macroblog article shows the reasonably strong positive relationship between goods GDP contribution and manufacturing IP growth. An modified alternative to GDP predicts the contribution of inventories to growth using the difference between model's goods GDP growth contribution and goods share-weighted IP growth. That model has inventories subtracting 0.7 percentage points from growth, but it only gets a small weight.

Figure 3: Quarterly Real Goods GDP Growth vs. Quarterly Manufacturing Industrial Production Growth



Model	GDP Growth Contribution	Standard GDPNow Weight	Alternative Weights
Monthly CPII data	0.3	0.85	0.80
Quarterly BVAR	1.0	0.15	0.09
Difference between IP growth and GDP goods growth	-0.7	0.00	0.11
Weighted Average		0.4	0.2

Source: Federal Reserve Board of Governors, US Bureau of Economic Analysis, and Haver Analytics

GDPNow model and nowcasting GDP growth

- GDPNow is just one approach to GDP forecasting. It’s “bottom up” probably becomes more useful relative to other GDP forecasting approaches the closer it is to the GDP release.
- GDP growth is not a perfect, and perhaps not even the best, indicator of momentum in the macroeconomy. It is useful, and GDP’s subcomponents add information about the strength of the economy beyond the top-line number.
- The uncertainty around GDPNow, and other, nowcasts of GDP growth is not constant. It is probably higher now than it was prior to the pandemic and in 2023-24.

Extra slides

Patrick Higgins

October 12, 2025

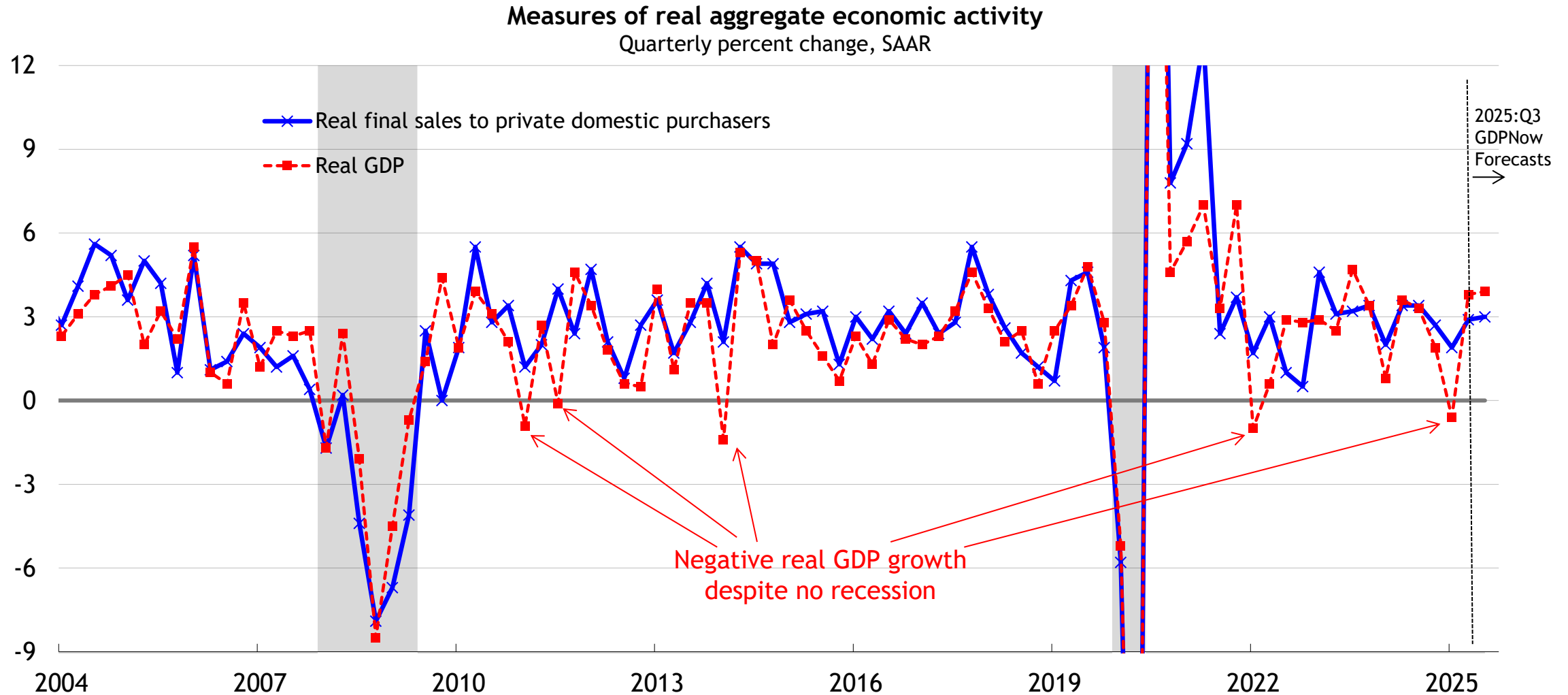
Disclaimer: The views expressed in this presentation are my own and not necessarily those of anyone else at the Federal Reserve Bank of Atlanta or the Federal Reserve System.



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	A	B	C	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
			31-Jul	21-Aug	25-Aug	26-Aug	29-Aug	2-Sep	3-Sep	4-Sep	5-Sep	10-Sep	11-Sep	16-Sep	17-Sep	24-Sep	26-Sep	1-Oct	3-Oct
2	Evolution of GDP nowcast and components for 2025q3																		
3		1-Personal consumption expenditures (PCE)	1.9	2.2	2.2	2.2	2.3	1.7	1.7	2.1	2.3	2.3	2.3	2.7	2.7	2.7	3.4	3.2	3.2
4		2- PCE Goods**	1.9	3.6	3.6	3.6	3.3	2.1	2.1	2.2	2.6	2.6	2.6	4.1	4.1	4.1	4.8	4.5	4.3
5		3- PCE Services**	1.9	1.6	1.6	1.6	1.8	1.6	1.6	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.7	2.7	2.7
6		4-Gross Private Domestic Investment (GDPDI)	6.1	4.8	4.4	4.4	6.1	5.3	5.3	6.0	6.2	6.2	6.1	6.9	6.4	6.8	4.1	4.2	4.0
7		5- Fixed Investment	2.5	0.6	0.2	0.5	2.6	1.8	1.8	2.6	2.9	3.0	3.0	3.3	2.8	3.2	1.8	2.0	1.9
8		6- Nonresidential	2.7	2.7	2.7	3.1	5.9	4.0	4.0	4.9	5.2	5.3	5.3	5.6	5.5	5.5	3.7	4.1	3.9
9		7- Equipment**	2.6	3.8	3.7	4.8	11.7	8.9	8.9	11.0	11.7	11.8	11.8	12.0	11.9	11.9	7.2	8.2	7.9
10		8- Intellectual Property Products**	5.5	5.0	5.0	5.0	5.5	5.3	5.3	5.4	5.3	5.3	5.3	5.3	5.3	5.3	5.4	5.4	5.4
11		9- Structures**	-2.3	-3.5	-3.5	-3.5	-3.5	-6.8	-6.8	-6.6	-6.2	-6.0	-6.0	-5.1	-5.1	-5.1	-5.3	-5.5	-5.6
12		10- Residential**	1.8	-6.3	-8.2	-8.2	-8.2	-5.6	-5.6	-5.2	-4.7	-4.8	-4.8	-4.6	-6.3	-4.7	-4.6	-4.9	-5.1
13		11-Government expenditures	1.7	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.6	1.6	1.6	1.6	1.8	1.8	1.8
14		12- Federal**	1.0	1.0	1.0	1.0	1.3	1.4	1.4	1.4	1.3	1.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9
15		13- State and Local**	2.1	1.7	1.7	1.7	1.6	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.7
16		14-Imports	8.5	8.5	8.5	8.5	1.8	-0.1	-0.1	2.4	3.2	3.3	3.3	4.3	4.2	4.3	-1.5	-1.8	-2.1
17		15- Goods**	10.2	10.0	10.0	10.0	1.4	-0.8	-0.8	1.5	2.4	2.5	2.5	3.6	3.5	3.6	-3.9	-4.2	-4.5
18		16- Services**	2.2	2.7	2.7	2.7	3.1	2.7	2.7	6.1	6.4	6.4	6.4	7.1	7.1	7.1	7.5	7.4	7.3
19		17-Exports	7.8	7.2	7.2	7.2	7.9	6.4	6.4	5.7	6.3	6.3	6.3	6.2	6.2	6.2	3.4	3.1	2.9
20		18- Goods**	9.8	9.7	9.7	9.7	10.7	8.5	8.5	8.3	9.1	9.2	9.1	9.0	9.0	9.0	4.8	4.3	4.0
21		19- Services**	4.2	2.9	2.8	2.8	3.1	2.8	2.8	1.2	1.4	1.4	1.4	1.3	1.3	1.3	1.1	1.0	0.9
22		20-Net Exports (current, \$Bil 2017)	-1052	-1055	-1055	-1055	-994	-987	-987	-1014	-1018	-1018	-1018	-1028	-1027	-1028	-1021	-1021	-1020
23		21-Net Exports (previous, \$Bil 2017)	-1026	-1026	-1026	-1026	-1029	-1029	-1029	-1029	-1029	-1029	-1029	-1029	-1029	-1029	-1058	-1058	-1058
24		Change in net exports (\$Bil 2017)	-26	-29	-29	-29	35	42	42	15	11	11	11	1	2	1	37	37	38
25																			
26		Previous change in private inventories (\$Bil 2017)	-6	-13	-13	-11	-14	-14	-13	-13	-13	-13	-13	-13	-13	-13	-18	-18	-18
27		Current change in private inventories (\$Bil 2017)**	30	30	30	29	20	21	22	21	19	19	18	23	23	23	4	3	3
28		Change in inventory investment (\$Bil 2017)	36	43	43	40	34	35	35	34	32	32	31	36	36	36	23	22	22
29	Note: 13 Distinct GDP subcomponents forecasted by GDPNow indicated by **.																		
30	Inventory investment is included in GDPDI.																		
31		GDP Nowcast	2.3	2.2	2.2	2.2	3.5	3.0	3.0	3.0	3.1	3.1	3.1	3.4	3.3	3.4	3.9	3.8	3.8
32		Final Sales	1.7	1.5	1.4	1.5	2.9	2.4	2.4	2.4	2.5	2.5	2.6	2.8	2.7	2.8	3.5	3.5	3.4
33		Final Sales to Domestic Purchasers	2.0	1.8	1.7	1.8	2.2	1.7	1.7	2.1	2.2	2.2	2.3	2.6	2.5	2.6	2.8	2.8	2.7
34		Final Sales to Private Domestic Purchasers	2.0	1.9	1.8	1.9	2.3	1.8	1.8	2.2	2.4	2.4	2.4	2.8	2.7	2.8	3.0	3.0	2.9
35																			

Real final sales to private domestic purchasers – which excludes inventory investment, net exports, and government spending – tends to be a better recession signal than real GDP. GDPNow forecasts both aggregates.



GDPNow model

- GDPNow is a “bottom-up” forecasting model in the sense that it utilizes many of the building blocks of GDP in order to “make” its forecast.
- Although GDPNow may generally outperform simple model like this for short-term forecasts, for longer-run forecasts, a GDPNow style approach might be inferior to these seemingly simple forecasts. Many economic models are in-between GDPNow and more top-down models. They often include some detail on GDP subcomponents while abstracting from others.
- Not always the case that “bottom-up” approaches have an advantage relative to “top-down” approaches for shorter-term forecasts rather than longer-term forecasts (e.g. employment, unemployment rate, etc.).

GDPNow model

- Goal: Forecast 13 subcomponents that comprise GDP with much of the monthly “source data” that the BEA uses to form its estimates. Willing to sacrifice some internal model consistency for forecast accuracy.
- Borrows heavily from several approaches used in the nowcasting literature:
 - **Factor models**: [Stock and Watson (2002, JBES); Giannone, Reichlin and Small (2008, JME)]. Use this to forecast monthly data that has not been released yet. The New York Fed Staff Model released to the public is a factor model that is more sophisticated than the factor model GDPNow uses.
 - **Bridge equations** [Klein’s model, Miller and Chin (1996, FRB-Minn. Review)]: Use the monthly data that has been released and forecasted monthly data that has not been released to produce a nowcast of a **GDP subcomponent**. Some GDP subcomponents are hard to pin down with this approach [e.g. investment in intellectual property products]. So also form an alternative (B)VAR subcomponent forecast that only uses previously released quarterly GDP subcomponent data. Form weighted average of the two forecasts with weights determined by historical accuracy. The weight on bridge-equation based forecast generally increases as more monthly data is released.

Excerpt from Federal Reserve Chairman's Jerome Powell opening statement in press conference following conclusion of June 17th - June 18th press conference.

- *“Following growth of 2.5 percent last year, GDP was reported to have edged down in the first quarter, reflecting swings in net exports that were driven by businesses bringing in imports ahead of potential tariffs. This unusual swing has complicated GDP measurement. Private domestic final purchases, or PDFP, as we call them—which excludes net exports, inventory investment, and government spending—grew at a solid 2.5 percent rate. Within PDFP, growth of consumer spending moderated, while investment in equipment and intangibles rebounded from weakness in the fourth quarter.”*

FOMC meeting participants release projections of U.S. macroeconomic variables four times a year, generally following meetings near the end of each quarter.

Median projections of Federal Reserve Board members and Federal Reserve Bank presidents for September 16-17, 2025 Federal Open Market Committee meeting

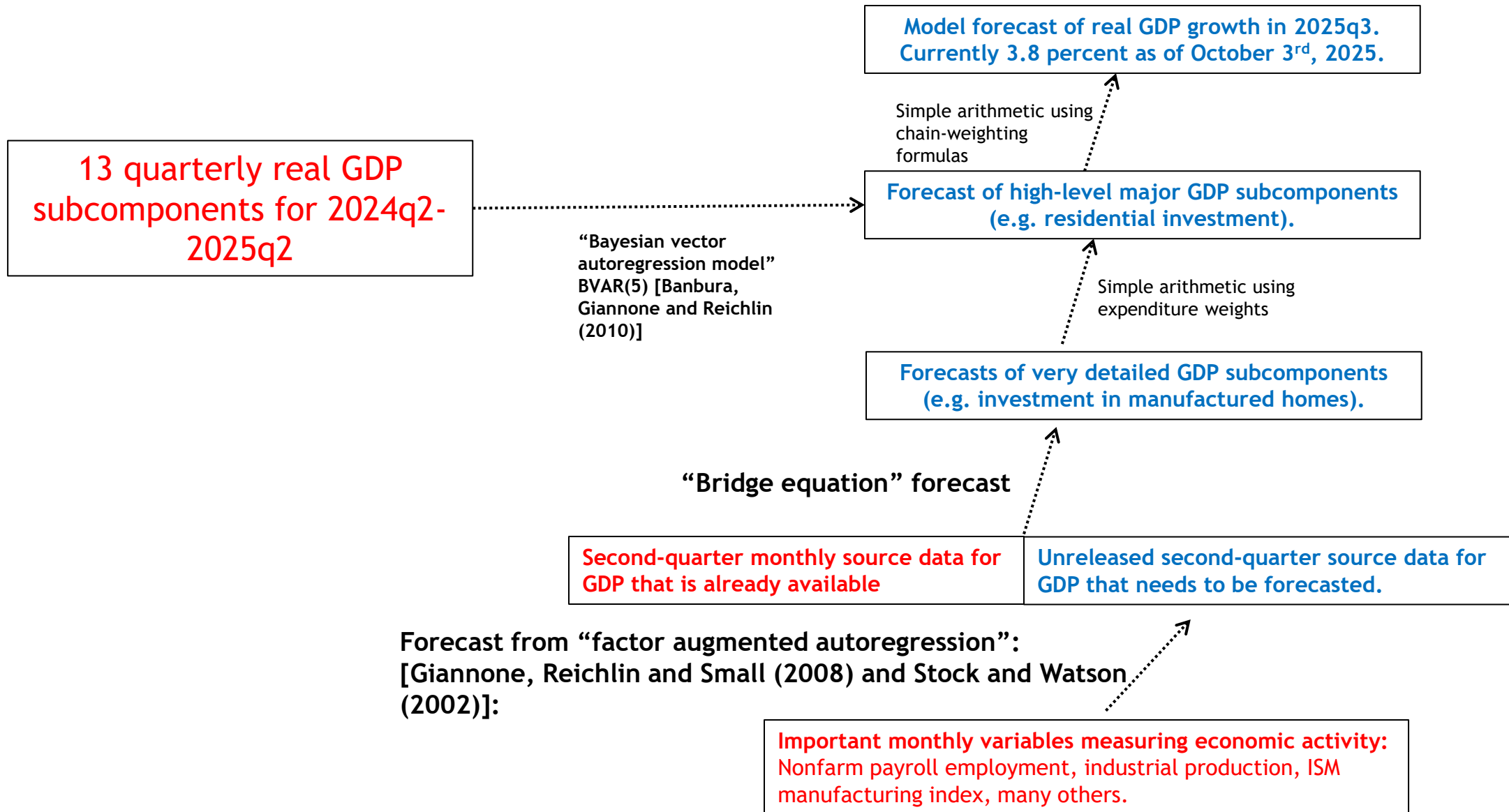
Percent

Variable	Median ¹				
	2025	2026	2027	2028	Longer run
Change in real GDP	1.6	1.8	1.9	1.8	1.8
June projection	1.4	1.6	1.8		1.8
Unemployment rate	4.5	4.4	4.3	4.2	4.2
June projection	4.5	4.5	4.4		4.2
PCE inflation	3.0	2.6	2.1	2.0	2.0
June projection	3.0	2.4	2.1		2.0
Core PCE inflation ⁴	3.1	2.6	2.1	2.0	
June projection	3.1	2.4	2.1		
Memo: Projected appropriate policy path					
Federal funds rate	3.6	3.4	3.1	3.1	3.0
June projection	3.9	3.6	3.4		3.0

Annualized 1- and 2-quarter 2025 real GDP growth

	Pre Sept 25 th	Post Sept 25 th
25:Q1	-0.5%	-0.6%
25:Q2	3.3%	3.8%
25:H1	1.4%	1.6%

High level flow chart of how GDPNow model forecast of real GDP growth is assembled.



Note: The text in red are inputs to the model. The text in blue are outputs of the model.

Dynamic factor model (Giannone, Reichlin and Small 2008): Estimated with PCA, OLS, Kalman filter/smoothen

Example: Oct 7th forecast of 2025:Q3 real nonresidential structures excluding mining and wells

Coefficients on March 20, 2020: (0.39) (0.27) (0.15) [i.e. large change during pandemic]

$$f_{t+1} = 0.22f_t - 0.10f_{t-1} + 0.08f_{t-2} + u_{t+1}$$

Oct-25 forecast not needed until next quarter

Aug-25 (-0.14) and Sep-25 (-0.31) values go here

Factor augmented autoregressions (Stock and Watson 2002):

Forecast September's real value of private nonresidential construction put in place (VPIP)

$$1200\Delta\log(\hat{y}_t^{VPIPreal}) = 0.59 + 10.62f_t + \sum_{j=1}^4 \rho_j 1200\Delta\log(y_{t-j}^{VPIPreal})$$

Predicted growth rates for Aug25 and Sep25. Cumulate to level.

Autoregressive coefficients sum to 0.27.

Bridge equation (Klein and Sojo 1989, Chin and Miller [Minneapolis Fed] 1996):

Predict 3rd quarter growth rate of real nonresidential structures investment excluding mining and wells

$$400\Delta\log(\widehat{INV}_{25q3}^{StrExMineWell}) = 0.95 + 0.97 \left[400\log \left(\frac{y_{Jul25}^{VPIPreal} + \hat{y}_{Aug25}^{VPIPreal} + \hat{y}_{Sep25}^{VPIPreal}}{y_{Apr25}^{VPIPreal} + y_{May25}^{VPIPreal} + y_{Jun25}^{VPIPreal}} \right) \right]$$

-5.6 in 2025q3

If bridge equation was perfect, intercept would be 0 and slope would be 1.0. These are close to those.

-6.8 in 2025q3

The slide below shows the arithmetic of how GDPNow's most recent nonresidential structures investment forecast 2024q2 was calculated.

Pieces of real nonresidential structures investment forecast on October 3rd

	A: Bridge Equation Model Forecast For 2025q3 (Annualized logarithmic growth rate)	B: 2025q2 expenditure share of nonresidential structures investment	Product of A and B
Total excluding mining and wells Monthly Source Data: "Real" private nonresidential construction put-in-place	-5.6	91.0%	-5.1
Petroleum and natural gas wells Monthly Source Data: Industrial production: Oil and gas well drilling	-6.8	8.0%	-0.5
Mining None used, forecast with simple statistical model using past values	-67.5	1.0%	-0.7
			<i>Sum of expenditure share weighted forecasts.</i>
	C: Forecast for 2025q3, (Annualized logarithmic growth rate)	D: Model Weight	Product of C and D
Expenditure-share weighted sum of bridge equation forecasts	-6.3	87.5%	-5.55
Quarterly real GDP subcomponent from alternative BVAR model with past values of GDP subcomponents	-1.7	12.5%	-0.22
Weighted sum of forecasts (GDPNow model forecast)	-5.8		

*Weights, estimated by
restricted least
squares, must sum to
100%.*

*Sum of model
weighted
forecasts.*

Note: Annualized logarithmic growth rate is $400\Delta\log$.

GDPNow forecasts of GDP subcomponents are a weighted average of a "bridge equation" forecast and a quarterly BVAR forecast. This is similar to the approach used by Miller and Chin (1996) from the Minneapolis Fed.

GDPNow forecasts of GDP subcomponents are a weighted average of a "bridge equation" forecast
Model weights and forecasts for 2025q3 real GDP subcomponent growth rates

	October 3rd			Model Weights		July 31st	
	Forecasts		Quarterly BVAR	Bridge	Quarterly	Bridge	Quarterly
	Combined	Equations Model		Equations Model	BVAR	Equations Model	BVAR
Personal Consumption Expenditures							
Goods	4.2	4.3	5.0	1.00		1.00	
Services	2.6	2.7	2.2	1.00		1.00	
Gross private domestic investment							
Fixed nonresidential investment							
Equipment	7.6	8.2	3.4	0.88	0.12	0.79	0.21
Intellectual property products	5.2	4.6	7.3	0.76	0.24	0.42	0.58
Structures	-5.8	-6.3	-1.7	0.88	0.12	0.21	0.79
Residential investment	-5.3	-5.5	6.2	0.98	0.02	0.51	0.49
Inventory investment (\$Bil 09)	3	-2	36	0.85	0.15	0.40	0.60
Net exports							
Goods exports	3.9	3.9	10.7	1.00	0.00	0.12	0.88
Goods imports	-4.6	-4.6	11.5	1.00	0.00	0.12	0.88
Services exports	0.9	0.7	5.3	0.96	0.04	0.13	0.87
Services imports	7.0	7.2	2.4	0.96	0.04	0.13	0.87
Government spending							
Federal	1.9	2.5	1.5	0.38	0.62	0.07	0.93
State+local	1.7	1.7	1.6	0.94	0.06	0.46	0.54

Weights, estimated by restricted least squares, sum to 1.0. PCE bridge eqn. weights set to 1.0 since monthly data is released by BEA

The weights on the monthly "bridge equation" models generally go up as we approach the date of the GDP release.

May 29, 2025 GDP News Release

*“Within investment, an upward revision to private inventory investment primarily reflected an updated BEA adjustment to Census Bureau book value data to account for notable increases in imports. Updated and newly available information on the industries impacted the **adjustment** and led to an upward revision to **nondurable goods manufacturing** (specifically, **chemical manufacturing**) that was largely offset by a downward revision to **nondurable goods wholesale** trade (drugs and sundries).”*

Excerpts from “Staff Review of the Economic Situation” section of the Minutes of the June 17-18, 2025 FOMC Meeting. The Federal Reserve Board staff nowcasts GDP growth and can often broadly anticipate outcomes for GDP subcomponents before the official estimate is released, as they mostly did in June for the late July GDP release.

-“Recent information suggested that *real GDP was rising in the second quarter, after it had declined slightly in the previous quarter.*”

-“*Real private domestic final purchases*—which comprises PCE and private fixed investment and which often provides a better signal than GDP of underlying economic momentum—had *increased solidly in the first quarter* and appeared to be *expanding further in the second quarter.*”

-“... Indicators for consumer spending, such as retail sales and motor vehicle purchases through May, pointed to *solid PCE growth in the second quarter.*”

-“*Business fixed investment (BFI)* rose markedly in the first quarter, apparently boosted by a pull-forward of imported capital goods in anticipation of tariff increases, and incoming data suggested that BFI was *rising modestly in the second quarter.*”

2025:Q1 vs.
2025:Q2 for growth
of real GDP and
subcomponents

2025:q1 Growth	2025:q2 Growth
-0.6%	3.8%

Real Final Sales to Private
Domestic Purchasers

2025:q1 Growth	2025:q2 Growth
1.9%	2.9%

Real Personal Consumption
Expenditures (PCE)

2025:q1 Growth	2025:q2 Growth
0.6%	2.5%

Real Business Fixed Investment

2025:q1 Growth	2025:q2 Growth
9.5%	7.3%

Excerpts from “Staff Review of the Economic Situation” section of the Minutes of the June 17-18, 2025 FOMC Meeting. The Federal Reserve Board staff nowcasts GDP growth and can often broadly anticipate outcomes for GDP subcomponents before the official estimate is released, as they mostly did in June for the late July GDP release.

-“International trade flows continued to be volatile amid substantial shifts in U.S. tariffs.”

-“After surging in the first quarter ahead of expected tariff hikes, **U.S. imports—especially of consumer goods—declined sharply in April**. That decline suggested that the front-loading of imports had stopped after the introduction of broad-based tariffs in early April.”

-“By contrast, **U.S. exports firmed in April**. In mid-May, the U.S. and China agreed to a 90-day reduction in bilateral tariffs, and recent indicators suggested that this change led to a rebound in trade flows.”

Real net exports

2025:q1 Contribution	2025:q2 Contribution
-0.6%	3.8%

Real Imports

2025:q1 Growth	2025:q2 Growth
38.0%	-29.3%

Real Exports

2025:q1 Growth	2025:q2 Growth
0.2%	-1.8%

In the December 2019 Tealbook, which includes Federal Reserve Board staff projections in preparation for that month's FOMC meeting and was released to the public with a 5-to-6 year lag, you can find various nowcasts of 2019:Q4 real GDP growth.

Federal Reserve System forecasts of real GDP growth made in December 2019 and included in the Tealbook for that month's FOMC meeting

Authorized for Public Release

Class II FOMC – Restricted (FR)

November 26, 2019

Domestic Econ Devel & Outlook

Greensheets

Changes in Real Gross Domestic Product and Related Items
(Percent, annual rate except as noted)

Federal Reserve System Nowcasts of 2019:Q4 Real GDP Growth (Percent change at annual rate from previous quarter)		
Federal Reserve entity	Type of model	Nowcast as of Nov. 26, 2019
Federal Reserve Bank		
Boston	• Mixed-frequency BVAR	2.2
New York	• Factor-augmented autoregressive model combination • Factor-augmented autoregressive model combination, financial factors only • Dynamic factor model	2.6 2.4 .7
Cleveland	• Bayesian regressions with stochastic volatility • Tracking model	1.2 1.6
Atlanta	• Tracking model combined with Bayesian vector autoregressions (VARs), dynamic factor models, and factor-augmented autoregressions (known as GDPNow)	.6
Chicago	• Dynamic factor model • Bayesian VARs	1.8 1.1
St. Louis	• Dynamic factor model • News index model • Let-the-data-decide regressions	1.4 1.6 2.3
Kansas City	• Accounting-based tracking estimate	1.7
Board of Governors	• Tealbook estimate (judgmental) • Mixed-frequency dynamic factor model (DFM-SM) • Mixed-frequency dynamic factor model (DFM-BM)	1.3 1.3 2.3
Memo: Median of Federal Reserve System nowcasts		1.6

Item	2019			2020				2021				2019 ¹	2020 ¹	2021 ¹	2022 ¹
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Real GDP	2.0	2.1	1.3	2.3	2.1	2.0	2.0	1.9	1.9	1.8	1.8	2.1	2.1	1.9	1.7
<i>Previous Tealbook</i>	2.0	1.7	1.6	2.2	2.0	1.9	1.8	1.8	1.8	1.8	1.8	2.1	2.0	1.8	1.7
Final sales	3.0	2.1	1.7	2.5	2.4	2.2	2.3	2.0	2.0	1.8	1.6	2.3	2.4	1.9	1.7
<i>Previous Tealbook</i>	3.0	1.8	1.8	2.4	2.4	1.9	2.2	2.1	2.0	1.7	1.6	2.3	2.2	1.8	1.6
Priv. dom. final purch.	3.3	2.3	1.9	2.1	2.6	2.6	2.6	2.3	2.2	2.0	1.9	2.3	2.5	2.1	1.8
<i>Previous Tealbook</i>	3.3	2.1	2.1	2.0	2.5	2.4	2.4	2.3	2.2	2.0	1.8	2.3	2.3	2.1	1.8
Personal cons. expend.	4.6	3.0	2.1	2.4	2.5	2.6	2.6	2.4	2.4	2.3	2.3	2.7	2.6	2.4	2.3
<i>Previous Tealbook</i>	4.6	2.8	2.3	2.4	2.5	2.5	2.4	2.4	2.4	2.3	2.3	2.7	2.5	2.4	2.3
Durables	13.0	7.3	2.4	3.3	5.0	5.1	5.2	5.0	5.0	5.0	5.0	5.6	4.6	5.0	5.0
Nondurables	6.5	4.1	2.7	3.3	3.1	3.0	2.9	2.5	2.4	2.5	2.4	3.8	3.1	2.5	2.5
Services	2.8	2.1	1.9	2.0	2.0	2.1	2.2	2.0	2.0	1.9	1.9	1.9	2.1	2.0	1.8
Residential investment	-3.0	4.6	5.9	7.2	6.8	2.4	-6	-2.7	-2.7	-3.3	-3.4	1.6	3.9	-3.0	-3.7
<i>Previous Tealbook</i>	-3.0	4.8	5.8	7.3	7.3	3.1	.9	-1.7	-2.8	-3.2	-3.8	1.6	4.6	-2.9	-3.8
Nonres. priv. fixed invest.	-1.0	-2.0	-1	-9	1.8	2.4	3.1	3.4	2.6	2.0	1.4	.3	1.6	2.3	1.1
<i>Previous Tealbook</i>	-1.0	-2.1	-2	-1.3	1.0	1.6	2.7	2.9	2.8	1.7	1.0	.3	1.0	2.1	.9
Equipment & intangibles	2.1	1.5	1.8	.6	2.6	3.5	4.2	4.5	3.4	2.8	2.0	2.5	2.7	3.2	1.9
<i>Previous Tealbook</i>	2.1	1.0	1.0	-.5	2.0	2.6	3.8	3.9	3.8	2.6	1.7	2.1	2.0	3.0	1.7
Nonres. structures	-11.1	-13.6	-7.0	-6.5	-1.1	-1.4	-9	-8	-6	-8	-1.1	-7.2	-2.5	-8	-1.8
<i>Previous Tealbook</i>	-11.1	-12.6	-4.2	-4.0	-2.8	-2.2	-1.4	-9	-1.2	-1.3	-1.6	-6.2	-2.6	-1.3	-2.1
Net exports ²	-981	-989	-994	-973	-980	-994	-996	-1001	-1005	-1011	-1024	-977	-986	-1010	-1037
<i>Previous Tealbook²</i>	-981	-998	-1005	-991	-999	-1017	-1012	-1012	-1012	-1025	-1036	-982	-1005	-1021	-1045
Exports	-5.7	.7	-1.1	5.0	1.7	2.0	2.4	2.8	3.3	3.4	3.5	-.6	2.7	3.3	3.5
Imports	.0	1.5	-2	1.0	2.0	3.1	1.9	2.5	2.8	3.1	4.1	-.1	2.0	3.1	3.2
Gov't. cons. & invest.	4.8	1.6	.8	1.8	1.5	1.0	.9	.4	.9	.8	.8	2.5	1.3	.7	.8
<i>Previous Tealbook</i>	4.8	1.3	.9	2.0	2.4	.6	.5	.4	.9	.8	.9	2.5	1.4	.7	.9
Federal	8.3	3.4	1.4	3.1	2.3	1.0	.6	-.7	.5	.3	.5	3.8	1.7	.2	.4
Defense	3.3	2.2	1.6	3.5	2.1	1.4	.7	.1	.3	.4	.0	3.7	1.9	.2	.6
Nondefense	16.1	5.2	1.0	2.5	2.6	.5	.4	-1.9	.9	.2	1.3	3.9	1.5	.1	.2
State & local	2.7	.4	.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.8	1.0	1.0	1.1
Change in priv. inventories ²	69	75	55	41	26	16	-3	-8	-14	-14	-4	79	20	-10	3
<i>Previous Tealbook²</i>	69	66	55	45	20	23	1	-11	-24	-18	-8	76	22	-15	7

1. Change from fourth quarter of previous year to fourth quarter of year indicated.
2. Billions of chained (2012) dollars; annual values show annual averages.

Class II FOMC – Restricted (FR)

November 26, 2019

GDPNow follows a fairly predictable update and release schedule that depends on the “data calendar”. There are generally around 14 to 16 updates a month, with around 6 or 7 of those released to the public on the same date. Most of these data releases come from the federal government.

September 2025 data calendar for dates/releases with GDPNow updates

Census: Blue
 BLS: Red
 BEA: Green
 Other: Black

BOLD ITALIC: At least one release implying GDPNow updated for public

PLAIN: Internal update only

1 September	2	3	4	5	6/7
	<i>ISM Manufacturing Index [All], Construction spending [I,G]</i>	Census Manufacturing M3-2 [I]	<i>International trade [NX], [I], Auto sales**[C, I], ISM Services Index [All]</i>	Employment situation [All,G],	
8	9	10	11	12	13/14
		<i>Wholesale trade [I], Producer Price Index [I]</i>	Consumer Price Index [C], Monthly Treasury Statement [G]		
15	16	17	18	19	20/21
	<i>Retail trade [C,I], Import/Export price indexes [NX], Industrial production [All C,I]</i>	<i>Housing starts [I]</i>			
22	23	24	25	26	27/28
	Existing-home sales [I]	<i>New-home sales/Construction cost deflator [I]</i>	Advance Census Manufacturing [I], Q2 GDP [No GDPNow update], Advance foreign trade and inventories [I,NX]	<i>Personal income and outlays [C]</i>	
29	30	1 October	2	3	4/5
		<i>ISM Manufacturing Index [All], Construction spending [I,G]</i>	M3-2 [I], Auto-sales**[C, I]	Employment situation [All,G], ISM Services Index [All]	

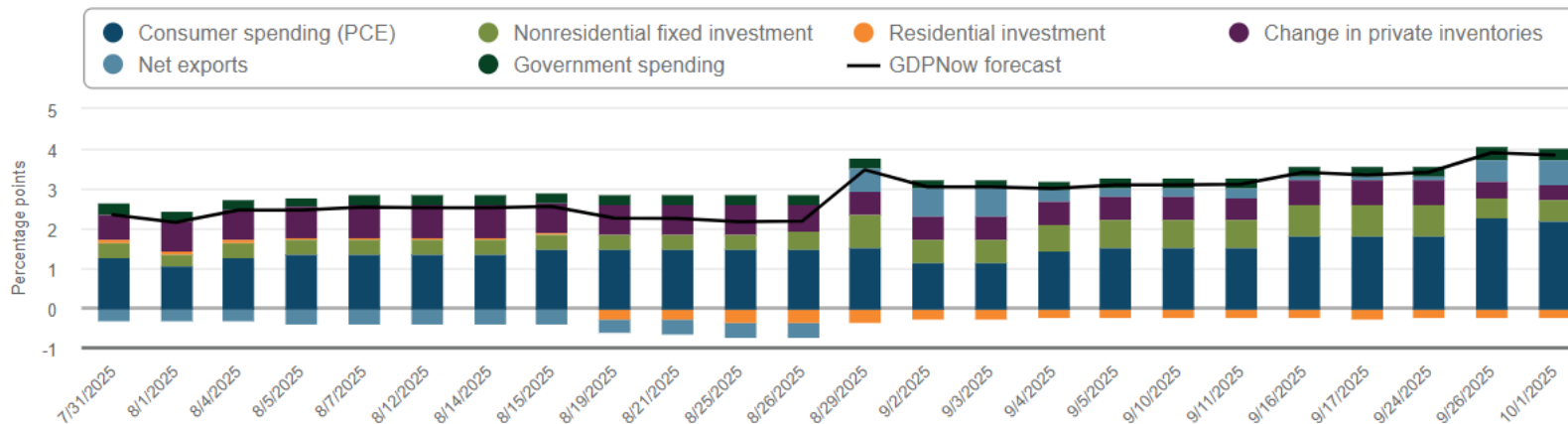
On the GDPNow page, under the tab “Subcomponent Contribution Charts” you can see two charts which conveys a lot of the information included in the previous table.

<https://www.atlantafed.org/cqer/research/gdpnow#Tab3>

A 5

Subcomponent contributions to GDPNow real GDP growth forecasts

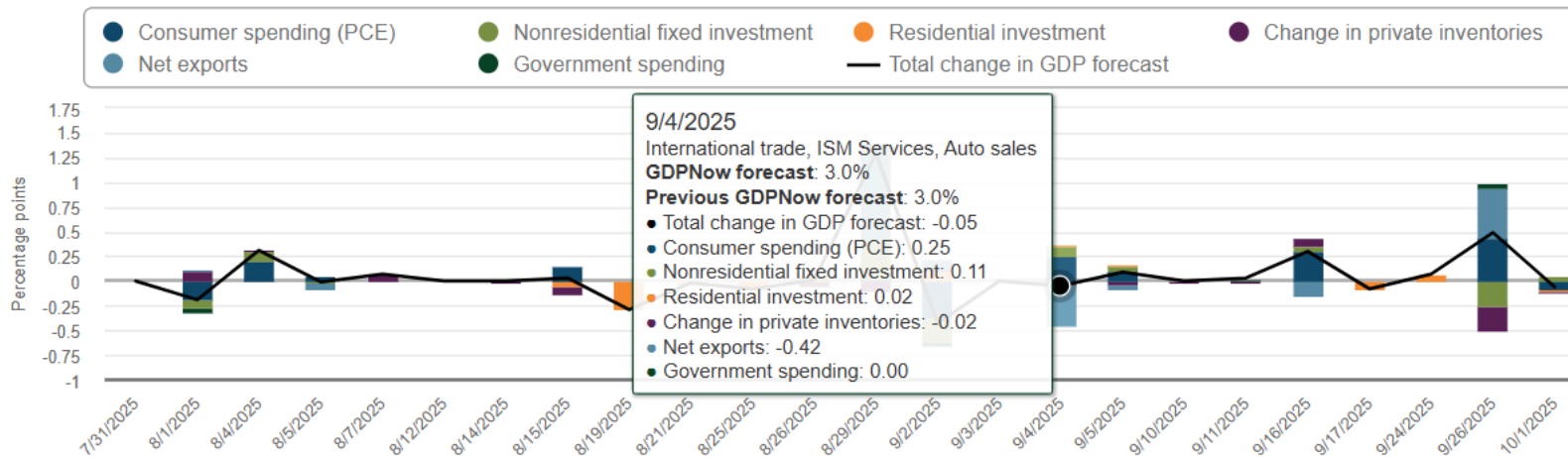
Export



Source: Atlanta Fed

Changes in subcomponent contributions to GDPNow real GDP growth forecasts

Export



The NIPA Handbook has much of the granular details of how the BEA estimates real GDP growth. Many of the calculations and data GDPNow uses is based on this material.



The screenshot shows a web browser displaying the BEA NIPA Handbook page. The address bar shows the URL bea.gov/resources/methodologies/nipa-handbook. The page header includes the BEA logo and navigation menus for Data, Tools, News, Research, Resources, About, and Help. A search bar is located in the top right corner. The main heading is "NIPA Handbook: Concepts and Methods of the U.S. National Income and Product Accounts". The introductory text describes the handbook's content, including chapters on fundamental concepts, source data, and estimating methods. A list of chapters is provided, each with a PDF link and a date.

Home | Resources | Methodologies | NIPA Handbook: Concepts and Methods of the U.S. National Income and Product Accounts

NIPA Handbook: Concepts and Methods of the U.S. National Income and Product Accounts

The "NIPA Handbook" begins with introductory chapters that describe the fundamental concepts, definitions, classifications, and accounting framework that underlie the national income and product accounts (NIPAs) of the United States and the general sources and methods that are used to prepare the NIPA estimates. It continues with separate chapters that describe the sources and methods that are used to prepare the expenditure and income components of the accounts and presents an appendix that defines each entry in the seven summary NIPA accounts and a glossary of terms that are associated with the NIPAs. The Handbook is intended to be a living reference that can be updated to reflect changes in concepts or methodology as they are introduced into the NIPAs.

This release of the NIPA Handbook updates the existing chapters to reflect the 2024 annual update of the NIPAs. Additional chapters will be incorporated as they become available.

- [Chapters 1-4: Concepts, Source Data, and Estimating Methods](#) PDF | December 2024
 - [Chapter 1: Introduction](#) PDF | December 2023
 - [Chapter 2: Fundamental Concepts](#) PDF | December 2024
 - [Chapter 3: Principal Source Data](#) PDF | May 2019
 - [Chapter 4: Estimating Methods](#) PDF | December 2023
- [Chapter 5: Personal Consumption Expenditures](#) PDF | December 2024
- [Chapter 6: Private Fixed Investment](#) PDF | December 2024
- [Chapter 7: Change in Private Inventories](#) PDF | December 2024
- [Chapter 8: Net Exports of Goods and Services](#) PDF | December 2024
- [Chapter 9: Government Consumption Expenditures and Gross Investment](#) PDF | December 2024

Each chapter of the handbook has a table like the one the left relating the GDP subcomponent to it's (generally monthly source data). The screenshot on the right shows where the source data for light vehicle sales can be found.

Table 5.A—Summary of Methodology Used to Prepare Estimates of PCE for Goods

Line in NIPA table group	Component	Current-dollar estimates				Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)
		Benchmark year	Indicator series used to interpolate and extrapolate*			
			Nonbenchmark years except the most recent year	Most recent year	Current quarterly estimates**	
2	Goods:					
3	Durable goods:					
4	Motor vehicles and parts:					
5	New motor vehicles [For more detail, see the technical note "Special Estimates."]	Based on unit data from Wards Intelligence and registration data from IHS-Polk and average price data from J.D. Power and Associates.	Same as for benchmark year.	Same as for benchmark year.	Same as for benchmark year.	CPI for new cars and CPI for new trucks.
6	Net purchases of used motor vehicles [For more detail, see the technical note "Special Estimates."]	<u>Dealers' margins:</u> retail sales from EC and margin rate from ARTS. <u>Net transactions:</u> commodity-flow method, starting with manufacturers' shipments from EC.	<u>Dealers' margins:</u> extrapolation based on Census gross margins for used vehicle dealers and wholesale margins for motor vehicle and motor vehicle parts and supplies, except MSBOs. <u>Net transactions:</u> quantities based on vehicles in operation data from IHS-Polk and average prices based on National Automobile Dealers Association (NADA).	<u>Dealers' margins:</u> extrapolation based on retail sales of used vehicle dealers from MRTS. <u>Net transactions:</u> same as for nonbenchmark year.	<u>Dealers' margins:</u> same as for most recent year. <u>Net transactions:</u> extrapolation based on retail sales of used vehicle dealers from MRTS.	CPI for used cars and trucks.
7	Motor vehicle parts and accessories	Commodity-flow method, starting with manufacturers' shipments from EC.	Retail control method, using retail sales from ARTS.	Retail control method, using retail sales from MRTS.	Same as for most recent year.	CPI for tires and CPI for vehicle parts and equipment other than tires.

https://www.bea.gov/data/gdp/gross-domestic-product

An official website of the United States government

bea Data Tools News Research Resources

Interactive Data

Supplemental Information & Additional Data

- Percent Change in Real GDP: Years, Since 1930
- Percent Change in Real GDP: Quarters, Since 1947
- Real GDP (Inflation-Adjusted Dollars): Years, Since 1929
- Real GDP (Inflation-Adjusted Dollars): Quarters, Since 1947
- Current-Dollar GDP: Years, Since 1929
- Current-Dollar GDP: Quarters, Since 1947
- Underlying Detail Tables
- Motor vehicles**
September 26, 2025

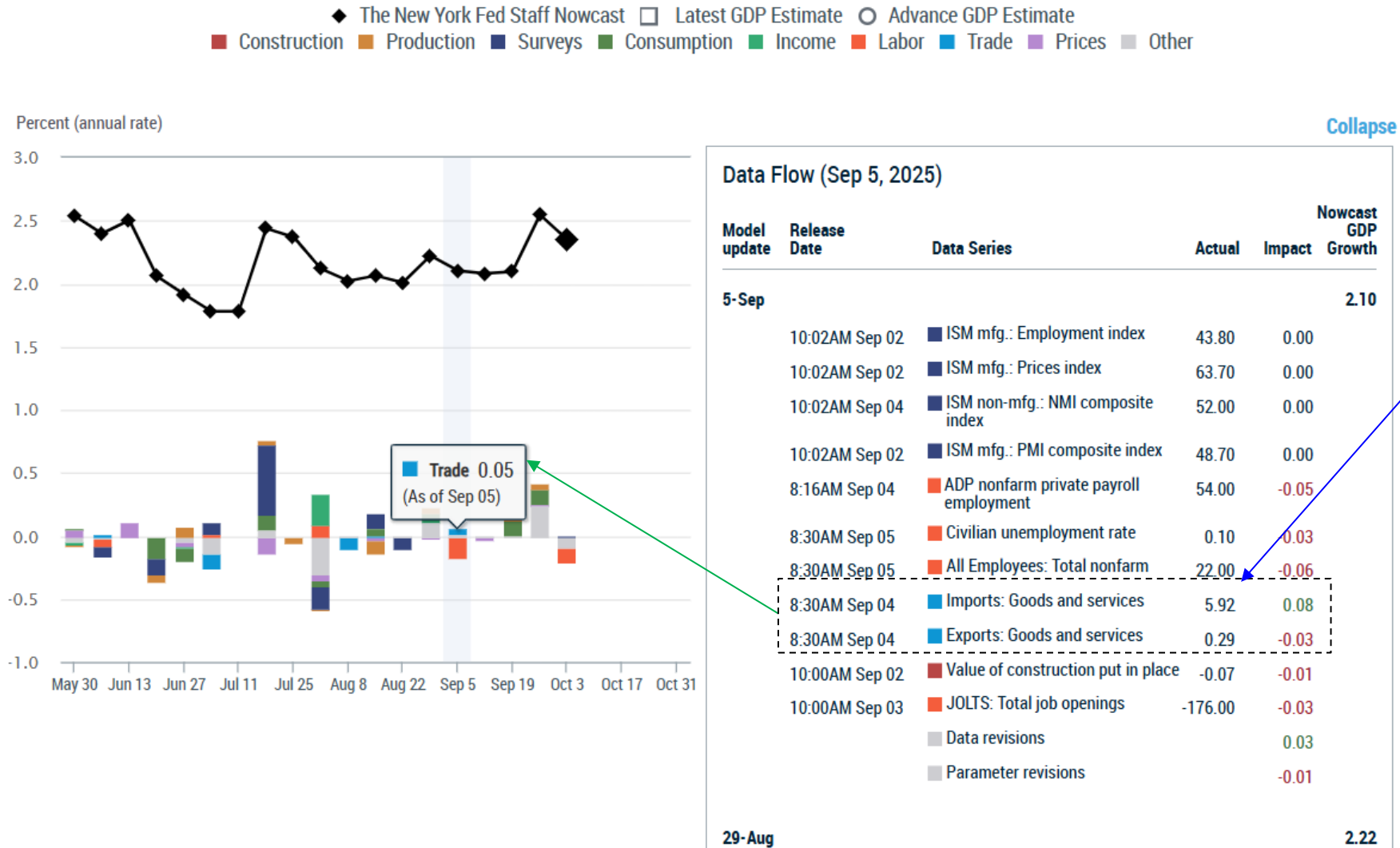
Each chapter of the handbook has a table like the one the left relating the GDP subcomponent to it's (generally monthly source data). The screenshot on the right shows where the source data for light vehicle sales can be found.

Table 6.A—Summary of Methodology Used to Prepare Estimates of Private Fixed Investment in Structures						
Line in NIPA table group 5.4	Component	Current-dollar estimates				Quantity and price estimates (quantity estimate prepared by deflating with the price index unless otherwise indicated)
		Benchmark year	Indicator series used to interpolate and extrapolate*			
			Nonbenchmark years except the most recent year	Most recent year	Current quarterly estimates	
2	Nonresidential:					
3	Commercial and health care:					
4	Office ¹	BEA's benchmark I-O accounts, primarily based on value put in place from MCS.	Value put in place from MCS.	Same as for nonbenchmark years.	Same as for nonbenchmark years.	PPI for office building construction.
5-9	Health care	BEA's benchmark I-O accounts, primarily based on value put in place from MCS.	Value put in place from MCS.	Same as for nonbenchmark years.	Same as for nonbenchmark years.	PPI for healthcare building construction.
10	Multimerchandise shopping	BEA's benchmark I-O accounts, primarily based on value put in place from MCS.	Value put in place from MCS.	Same as for nonbenchmark years.	Same as for nonbenchmark years.	PPI for warehouses.
11	Food and beverage establishments	BEA's benchmark I-O accounts, primarily based on value put in place from MCS.	Value put in place from MCS.	Same as for nonbenchmark years.	Same as for nonbenchmark years.	PPI for warehouses.
12	Warehouses	BEA's benchmark I-O accounts, primarily based on value put in place from MCS.	Value put in place from MCS.	Same as for nonbenchmark years.	Same as for nonbenchmark years.	PPI for warehouses.
13	Other commercial ²	<u>Mobile structures:</u> commodity-flow method, starting with manufacturers' shipments from EC. <u>Other components:</u> BEA's benchmark I-O accounts, primarily based on value put in place from MCS.	<u>Mobile structures:</u> Value put in place from MCS. <u>Other components:</u> Value put in place from MCS.	Same as for nonbenchmark years.	Same as for nonbenchmark years.	<u>Mobile structures:</u> PPI for mobile homes. <u>Other components:</u> PPI for warehouses.

The screenshot shows the Census.gov website page for 'Construction Spending - Data'. A red arrow points from the 'PPI for office building construction' cell in the table to the corresponding link in the 'Latest Construction Spending Data' section of the website. The website includes a navigation menu on the left and a main content area with links for 'Current Construction Spending at a Glance', 'Current Construction Spending Release in PDF', and 'Current Construction Spending Release in EXCEL'. Below that, there is a section for 'Historical Construction Spending Data' with links for 'Historical Construction Spending Releases in EXCEL', 'Historical Construction Spending Releases in PDF', 'Historical Value Put in Place', 'Length of Time', and 'Previous Series Data'.

The chart below shows that the surge in imports in the September 5th international trade released boosted the NY Fed Nowcast model projection of GDP growth modestly since imports are procyclical. But in accounting sense imports subtract from growth so that surge in imports without a commensurate surge in exports lowered the GDPNow projection.

Impact of Data Releases



GDPNow estimate of contribution of net exports to Q3 GDP growth fell from 0.69 ppt. on Sep 3rd to 0.24 ppt. on Sep 4th after the international trade report for July was released

The table below is available at <https://www.atlantafed.org/-/media/documents/cqer/researchcq/gdpnow/RealGDPTrackingSlides.pdf> and updated after each of the six to seven GDPNow updates each month.

Atlanta Fed GDPNow estimates for 2025: Q3, growth rates and changes

Date	Major Releases	GDP	PCE	Equip- ment	Intell. prop. prod.	Nonres. struct.	Resid. inves.	Govt.	Exports	Imports	Change in net exp.	Change in CIPI
25-Sep	Latest BEA estimate for 25:Q1	-0.6	0.6	21.4	6.5	-3.1	-1.0	-1.0	0.2	38.0	-312	155
25-Sep	Latest BEA estimate for 25:Q2	3.8	2.5	8.5	15.0	-7.5	-5.1	-0.1	-1.8	-29.3	323	-190
31-Jul	Initial GDPNow 25:Q3 forecast	2.3	1.9	2.6	5.5	-2.3	1.8	1.7	7.8	8.5	-26	36
29-Aug	Q2 GDP (8/28), Adv. Econ. Ind., Personal income & outlays	3.5	2.3	11.7	5.5	-3.5	-8.2	1.5	7.9	1.8	35	34
2-Sep	ISM Manufacturing Index, Construction spending	3.0	1.7	8.9	5.3	-6.8	-5.6	1.4	6.4	-0.1	42	35
3-Sep	M3-2 Manufacturing	3.0	1.7	8.9	5.3	-6.8	-5.6	1.4	6.4	-0.1	42	35
4-Sep	Int. trade, ISM Services, Auto sales	3.0	2.1	11.0	5.4	-6.6	-5.2	1.4	5.7	2.4	15	34
5-Sep	Employment report	3.1	2.3	11.7	5.3	-6.2	-4.7	1.4	6.3	3.2	11	32
10-Sep	Wholesale trade, Producer Price Index	3.1	2.3	11.8	5.3	-6.0	-4.8	1.4	6.3	3.3	11	32
11-Sep	CPI, Monthly Treasury Statement	3.1	2.3	11.8	5.3	-6.0	-4.8	1.6	6.3	3.3	11	31
16-Sep	Retail trade, Import/Export Prices, Industrial production	3.4	2.7	12.0	5.3	-5.1	-4.6	1.6	6.2	4.3	1	36
17-Sep	Housing starts	3.3	2.7	11.9	5.3	-5.1	-6.3	1.6	6.2	4.2	2	36
24-Sep	New-home sales	3.4	2.7	11.9	5.3	-5.1	-4.7	1.6	6.2	4.3	1	36
26-Sep	Q2 GDP (9/25), Adv. Econ. Ind. (9/25), Adv. Manuf. (M3-1) (9/25), Existing-home sales (9/25), Pers. Inc. & outlays	3.9	3.4	7.2	5.4	-5.3	-4.6	1.8	3.4	-1.5	37	23
1-Oct	ISM Manufacturing Index	3.8	3.2	8.2	5.4	-5.5	-4.9	1.8	3.1	-1.8	37	22

GDPNow was unchanged on September 4th. A decline in net exports was offset by increases in consumption and equipment investment

Note: CIPI is “change in private inventories.” Changes in net exports and CIPI are both in billions of 2017 dollars (SAAR). All other numbers are quarterly percent changes (SAAR). Table does not necessarily include all estimates for the quarter; see tab “TrackingHistory” in the [online excel file](#) for the entire history.

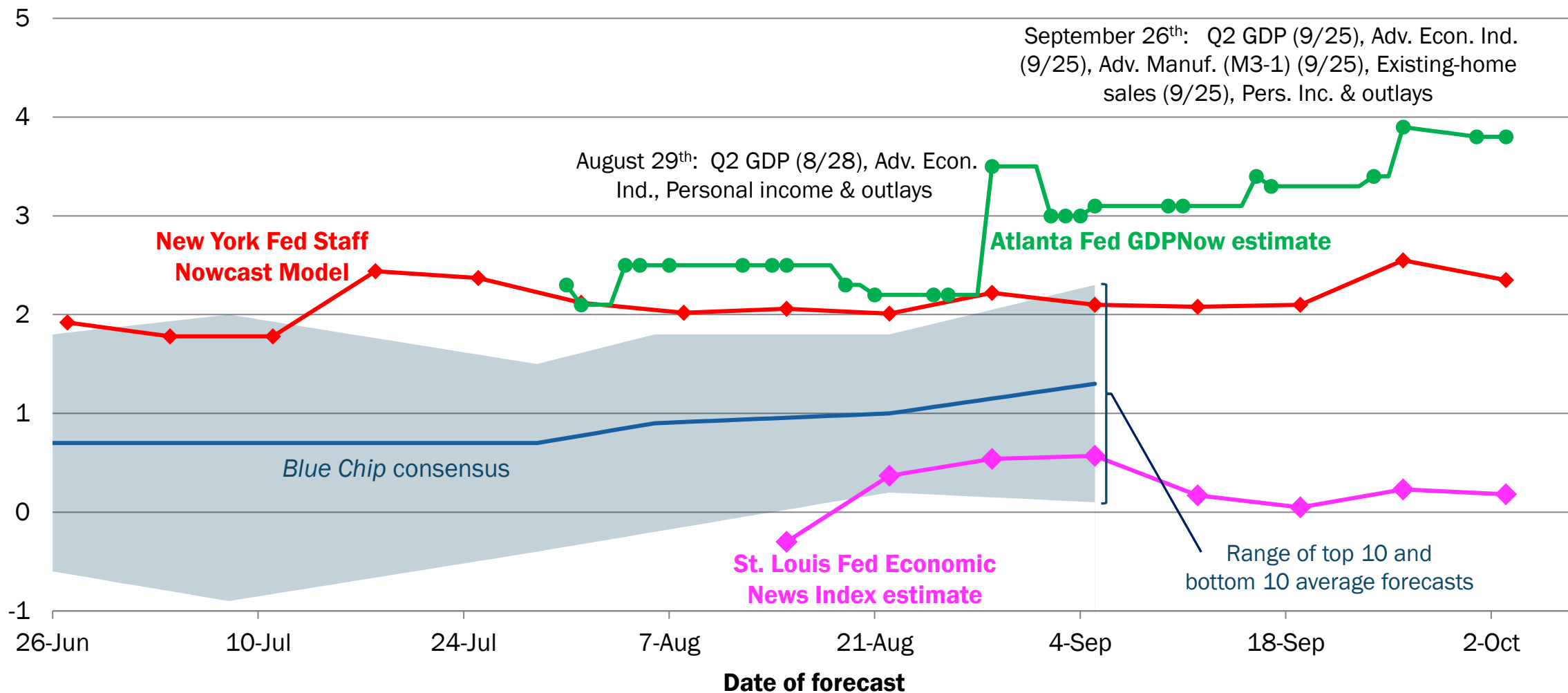
A similar subcomponent contributions table is available in the same file. In each row, the light blue number in the first column with numerical values is the sum of the black numbers to the right of it apart from a small rounding error.

Atlanta Fed GDPNow estimates for 2025: Q3, contributions to growth

Date	Major Releases	GDP	PCE	Equip- ment	Intell. prop. prod.	Nonres. struct.	Resid. inves.	Govt.	Net exports	CIPI
25-Sep	Latest BEA estimate for 25:Q1	-0.6	0.42	1.00	0.34	-0.10	-0.04	-0.17	-4.68	2.58
25-Sep	Latest BEA estimate for 25:Q2	3.8	1.68	0.44	0.78	-0.23	-0.21	-0.01	4.83	-3.44
31-Jul	Initial GDPNow 25:Q3 forecast	2.3	1.29	0.14	0.30	-0.07	0.07	0.29	-0.31	0.63
29-Aug	Q2 GDP (8/28), Adv. Econ. Ind., Personal income & outlays	3.5	1.55	0.61	0.30	-0.11	-0.34	0.26	0.59	0.59
2-Sep	ISM Manufacturing Index, Construction spending	3.0	1.18	0.47	0.29	-0.21	-0.23	0.23	0.69	0.61
3-Sep	M3-2 Manufacturing	3.0	1.18	0.47	0.29	-0.21	-0.23	0.23	0.69	0.61
4-Sep	Int. trade, ISM Services, Auto sales	3.0	1.44	0.58	0.30	-0.20	-0.21	0.23	0.28	0.59
5-Sep	Employment report	3.1	1.54	0.61	0.29	-0.19	-0.19	0.24	0.23	0.56
10-Sep	Wholesale trade, Producer Price Index	3.1	1.54	0.62	0.29	-0.18	-0.19	0.24	0.23	0.55
11-Sep	CPI, Monthly Treasury Statement	3.1	1.54	0.62	0.29	-0.18	-0.19	0.27	0.23	0.54
16-Sep	Retail trade, Import/Export Prices, Industrial production	3.4	1.85	0.63	0.29	-0.15	-0.19	0.27	0.08	0.63
17-Sep	Housing starts	3.3	1.85	0.62	0.29	-0.16	-0.26	0.27	0.08	0.63
24-Sep	New-home sales	3.4	1.85	0.63	0.29	-0.16	-0.19	0.27	0.08	0.63
26-Sep	Q2 GDP (9/25), Adv. Econ. Ind. (9/25), Adv. Manuf. (M3-1) (9/25), Existing-home sales (9/25), Pers. Inc. & outlays	3.9	2.29	0.38	0.30	-0.16	-0.19	0.31	0.58	0.39
1-Oct	ISM Manufacturing Index	3.8	2.21	0.43	0.30	-0.17	-0.20	0.31	0.59	0.37

Note: CIPI is "change in private inventories." All numbers are percentage-point contributions to GDP growth (SAAR). The table does not necessarily include all estimates for the quarter; see tab "ContribHistory" in the [online excel file](#) for the entire history.

Evolution of Atlanta Fed GDPNow real GDP estimate for 2025: Q3
 Quarterly percent change (SAAR)



Sources: Blue Chip Economic Indicators and Blue Chip Financial Forecasts, Federal Reserve Banks of Atlanta and St. Louis, and Haver Analytics

Note: The top (bottom) 10 average forecast is an average of the highest (lowest) 10 forecasts in the Blue Chip survey.