Goldman Sachs | Economics Research

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US Economics Analyst

Making Sense of the GDP-GDI Gap (Abecasis)

- Real GDP grew by 3.3% year-over-year in 2023Q4, well above expectations and our estimate of potential growth. However, real gross domestic income (GDI), an alternative measure of economic activity derived from income rather than expenditure data, declined by 0.1% year-over-year in 2023Q3, and the gap between the levels of GDP and GDI is now at its highest level since the early 1990s.
- Both GDP and GDI are valuable indicators of economic activity in general. Historically, we find that a simple average of the initial estimates of GDP and GDI growth does best at predicting the revised estimates of both indicators. In addition, GDI growth has sometimes been weaker just before the economy goes into recession, leading some commentators to place more weight on it as a signal of inflection points in economic growth.
- At present, however, we see some tangible reasons why GDI probably understates growth. First, business net interest payments have subtracted over 1pp from year-over-year GDI growth through 2023Q3. But net interest payments tend to be revised up when rates rise, and we expect revisions this cycle to boost year-over-year GDI growth by around 0.8pp in 2023Q3.
- Second, the BEA's effort to adjust depreciation for the impact of tax policy changes is likely causing corporate profits to be understated in GDI. We find that previous swings in the depreciation adjustment have been associated with large revisions to corporate profits growth, and we estimate that these revisions could boost year-over-year GDI growth by 0.4pp in 2023Q3.
- Third, tighter financial conditions since the Fed started hiking have lowered capital gains in 2022-2023 relative to 2020-2021, which is likely lowering GDI growth relative to GDP growth. While GDI is supposed to exclude capital gains, in practice the difference between GDP and GDI is larger when capital gains are lower, and we suspect that lower capital gains are artificially lowering GDI in 2023.
- Fourth, the list of state and local government enterprises that are included in GDI has not been updated for several decades, and several of the largest state and local government enterprises no longer meet the criteria for inclusion in GDI. As a result, we estimate that the negative contribution from this component is artificially lowering year-over-year GDI growth by 0.1pp in 2023Q3.

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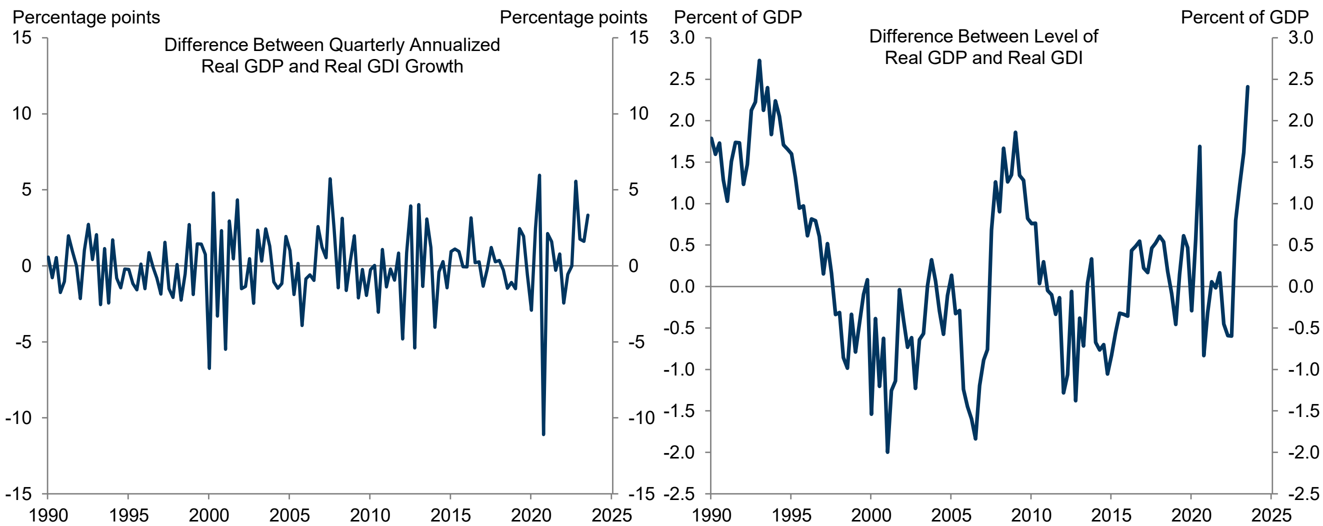
- To gauge "true" growth in the four quarters to 2023Q3, we would use the average of GDP (2.9%) and GDI adjusted for our four distortions (1.3%). The resulting 2.1% estimate implies that the US economy grew at a pace close to or very slightly above potential. This is also consistent with the performance of the labor market over the past 12-18 months.

Making Sense of the GDP-GDI Gap

Real GDP grew by 3.3% year-over-year in 2023Q4, well above expectations and our estimate of potential growth. However, real gross domestic income (GDI), an alternative measure of economic activity derived from income rather than expenditure data, declined by 0.1% year-over-year in 2023Q3, and the gap between the levels of GDP and GDI is at its highest level since the early 1990s (Exhibit 1).

Exhibit 1: The Gap Between GDP And GDI Is the Largest Since the Early 1990s

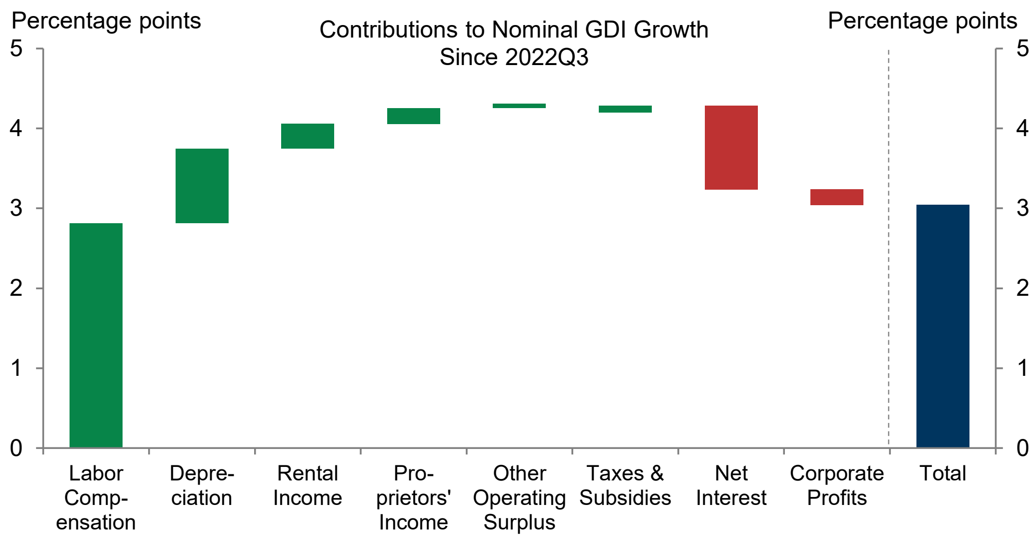


Source: Department of Commerce, Goldman Sachs Global Investment Research

The weakness in GDI has been concentrated in corporate profits and net interest payments, its most poorly measured components (Exhibit 2).[1] While labor compensation has risen by 5.4%, corporate profits have declined by 1.8% and net interest payments have declined by 38% since 2022Q3.

[1] See Dennis J. Fixler, Eva de Francisco, and Danit Kanal, "The Revisions to Gross Domestic Product, Gross Domestic Income, and Their Major Components," Survey of Current Business 101(1).

Exhibit 2: The Weakness in GDI Has Been Concentrated in Net Interest Payments and Corporate Profits, Its Most Poorly Measured Components



Source: Department of Commerce, Goldman Sachs Global Investment Research

Both GDP and GDI are valuable indicators of economic activity in general. Historically, we find that a simple average of the initial estimates of GDP and GDI growth does best at predicting the revised estimates of both indicators (Exhibit 3). In addition, GDI growth has sometimes been weaker just before the economy goes into recession, leading some commentators to place more weight on it as a signal of inflection points in economic growth.

Exhibit 3: A Simple Average of GDP and GDI Predicts the Revised Estimates of Both Indicators the Best

		Regression of…	
Vintage*	Growth Indicator	Average of Final Estimates of GDP and GDI Growth†	GS Current Activity Indicator, Hard Data
Second	Quarterly Annualized GDP Growth	0.49	0.50
	Quarterly Annualized GDI Growth	0.51	0.50
Third	Quarterly Annualized GDP Growth	0.48	0.45
	Quarterly Annualized GDI Growth	0.52	0.55

* BEA only publishes GDI estimates starting with the second vintage of the GDP release.
† Coefficients were constrained to sum to one so they can be interpreted as weights.
Note: excludes 2020 from the calculations. All coefficients are significant at the 1% level.

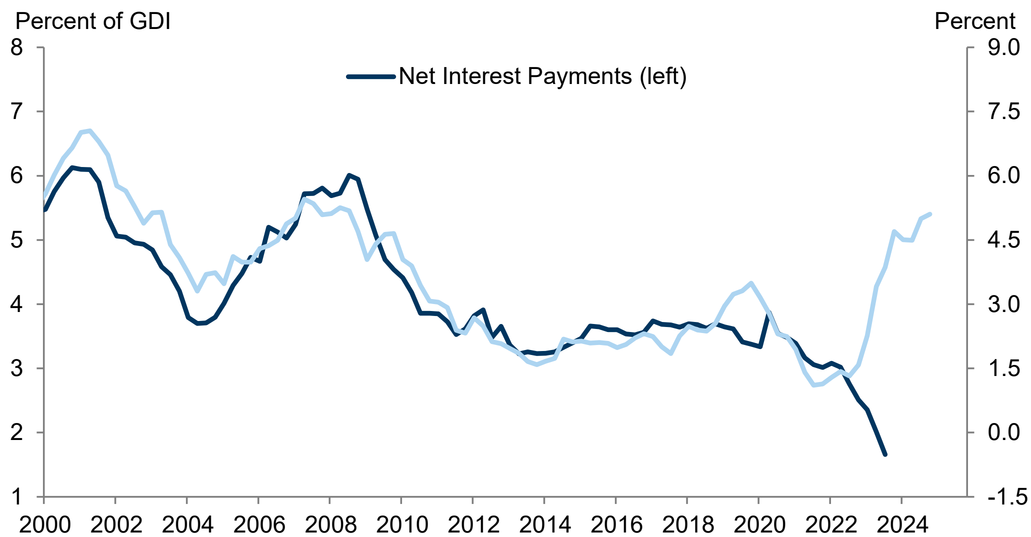
Source: US Department of Commerce, Goldman Sachs Global Investment Research

At present, however, we see some tangible reasons why GDI probably understates growth. First, business net interest payments have subtracted around 1pp from year-over-year GDI growth through 2023Q3, and we think the drag from BEA's current extrapolation of interest payments is likely to get mostly revised away.

GDI and GDP both aim to measure economic production, and interest generated by asset holdings is not generally considered part of the production process. As a result, interest income and interest payments are excluded from GDI. But because businesses report corporate profits inclusive of net interest income, the BEA adds back an estimate of net interest paid in order to cancel out net interest received in GDI.

Recently, net interest payments have diverged sharply from their typical relationship with interest rates. Net interest payments typically increase when interest rates rise, but they have actually *declined* in recent quarters despite large increases in interest rates since the Fed started hiking in 2022 (Exhibit 4). While we've previously shown that businesses' interest expenses will increase with a lag this cycle, the steep declines in net interest payments in GDI go well beyond the decline in bond yields during the pandemic and are inconsistent with other estimates of interest paid by businesses. Net interest payments are now at their lowest level since 2004 in nominal terms and since 1959 as a share of GDI.

Exhibit 4: Net Interest Payments Have Declined Sharply in Recent Quarters Even as Interest Rates Rose



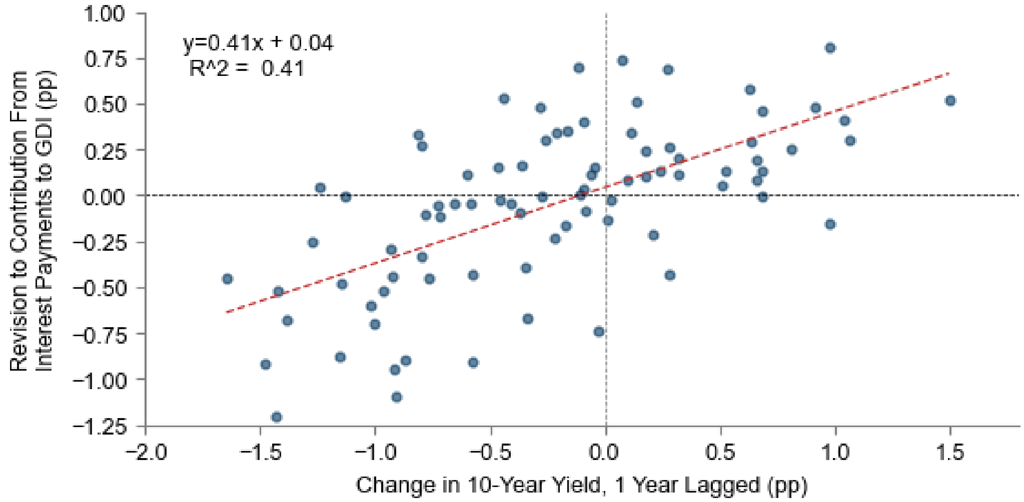
Source: Department of Commerce, Intercontinental Exchange, Goldman Sachs Global Investment Research

We suspect that the BEA's methodology for extrapolating net interest payments in early estimates of GDI is likely to miss turning points in interest rates. Until it incorporates source data from the IRS on business net interest payments, the BEA estimates the net interest payments as a residual, equal to the sum of net interest received by households, the government, and the rest of the world.[2] Recently, government interest expenses have increased meaningfully as rates rose, but personal interest income—which is also extrapolated—has increased relatively little, even though US households are net lenders to the rest of the economy. As a result, the BEA is implicitly assuming that businesses are receiving most of the increase in interest payments since 2022.

Historically, we find that the BEA's early estimates of net interest payments in GDI have been revised in the same direction as recent changes in interest rates (Exhibit 5), and we expect a similar pattern to play out this cycle.

[2] The BEA has recently added a new chapter to the NIPA handbook outlining its methodology for calculating net interest payments in GDI: https://www.bea.gov/resources/methodologies/nipa-handbook/pdf/chapter-14.pdf

Exhibit 5: Net Interest Payments Tend to Be Revised Up When Interest Rates Rise

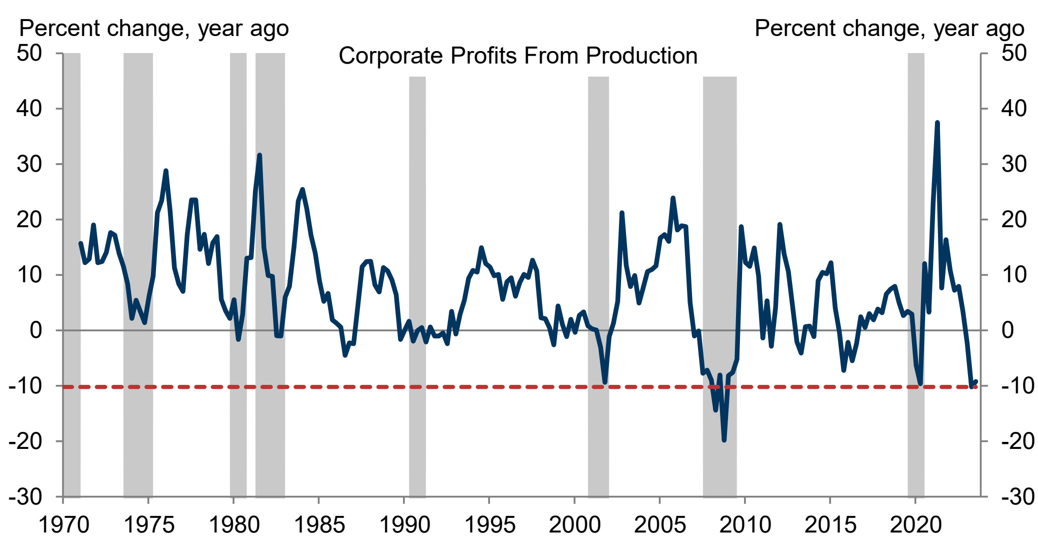


Note: We exclude the effect of the inclusion of interest payments by the Fed in the 2023 comprehensive revisions to the national accounts.

Source: Department of Commerce, Federal Reserve, Goldman Sachs Global Investment Research

Because of the current extrapolation of net interest payments in GDI, the national accounts' estimate of profits from production—that is, profits without the effect of interest paid and received—has declined by more in 2023 than at any point since 1970 except for the 2008 financial crisis, even as businesses have continued to hire and invest and households have continued to spend (Exhibit 6). We expect the eventual revisions to business net interest payments to deliver a more realistic picture for corporate profits from production in 2023.

Exhibit 6: Taking the Net Interest Payments Component of GDI at Face Value Would Imply that Corporate Profits From Production Declined by More in 2023 Than at Any Point Since 1970 Except for 2008

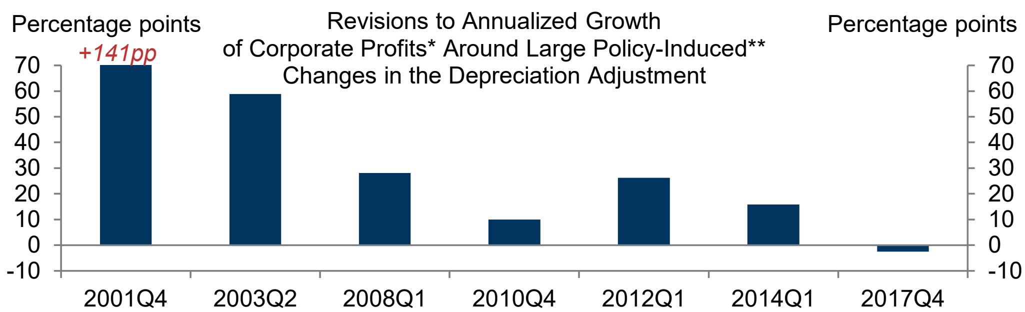


Source: Department of Commerce, Goldman Sachs Global Investment Research

Taken together, we expect revisions to net interest payments to boost year-over-year GDI growth by around 0.8pp in 2023Q3.

Second, we continue to think that the BEA's depreciation adjustment to corporate profits—which subtracted $400bn from corporate profits in 2023Q1 as a result of changes in the tax treatment of depreciation—is likely leading profits to be understated in GDI. We noted this possibility last year, and we expect the adjustment to be reflected when the IRS source data are released, which happens with a two-year lag. History suggests that these revisions could boost year-over-year GDI growth by 0.4pp in 2023Q3, largely through its effect on sequential growth in 2023Q1 (Exhibit 7).

Exhibit 7: The BEA's Adjustment to Depreciation to Account for the Impact of Tax Policy Changes Is Likely Artificially Weighing on Corporate Profits



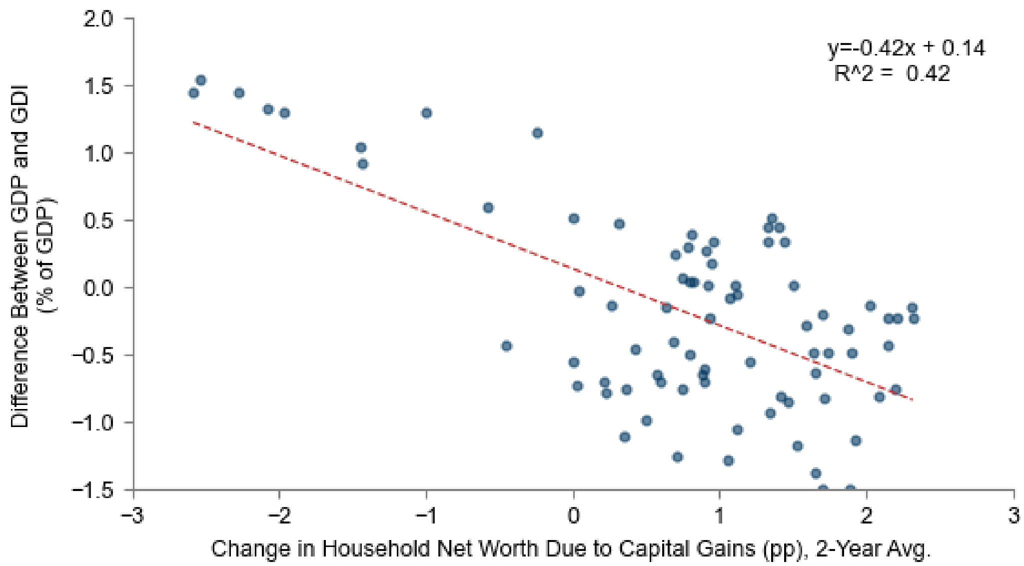
Note: sign of revisions is positive if corporate profits are revised in the expected direction (a decline in the depreciation adjustment is expected to result in an upward revision in corporate profits and vice-versa).
* Difference between the first and final quarterly annualized growth rates published by BEA. Uses corporate profits for domestic industries from 2012 onwards and national corporate profits before 2012.
** Quarterly annualized changes in depreciation adjustment for domestic business profits worth more than 10% of unadjusted profits.

Source: Department of Commerce, Goldman Sachs Global Investment Research

Third, tighter financial conditions have lowered capital gains in 2022 and 2023 relative to 2021 and weighed on GDI growth relative to GDP growth. Since 2022Q1, household capital gains have averaged -$121bn annualized, compared to +$3.5tn annualized in 2020-2021. While capital gains are supposed to be excluded from GDI, in practice it is often difficult to distinguish between short-term capital gains and ordinary income. And since both types of income are taxed at the same rate, there is less incentive for the IRS to correct reporting mistakes across the two.

Consistent with this, Exhibit 8 shows that there is a persistent relationship between household capital gains and the statistical discrepancy between GDP and GDI. Unlike the BEA's estimates of business net interest payments, which we expect to be revised, we expect the effect of lower capital gains to persist in future estimates of the statistical discrepancy for 2023.

Exhibit 8: Capital Gains Are Likely Lowering GDI vs. GDP in 2023

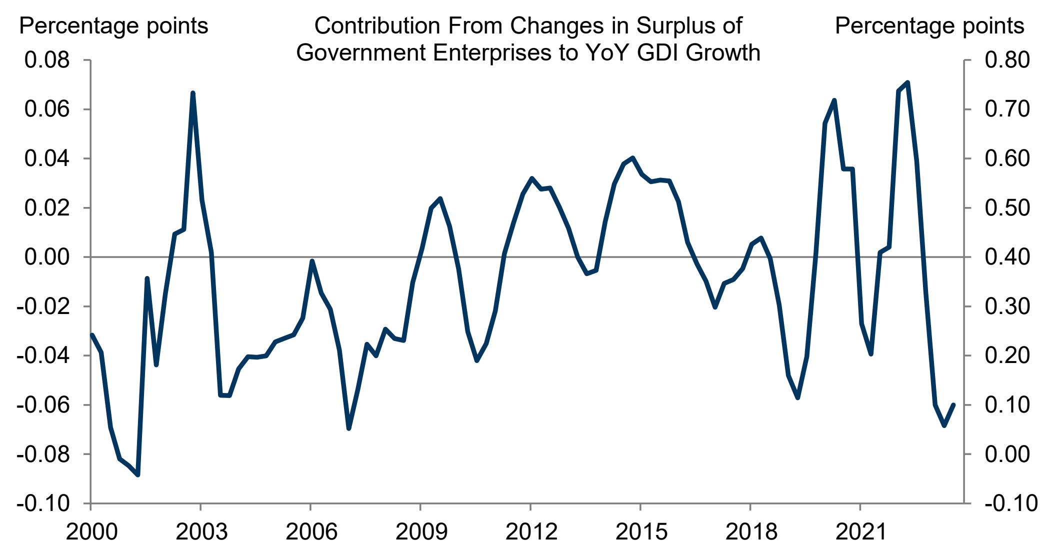


Source: Federal Reserve, Department of Commerce, Goldman Sachs Global Investment Research

Fourth, an outdated classification of state and local government enterprises is generating a roughly 0.1pp drag on year-over-year GDI growth in 2023Q3. The BEA includes the surplus of government enterprises that operate like businesses in GDI alongside the profits of private businesses. But the list of state and local government enterprises that are included in GDI has not been updated for several decades, as a recent BEA paper pointed out.[3] This component of GDI has declined substantially over the last year (Exhibit 9), and the BEA paper notes that its two largest components—housing and public transit—should no longer be included in GDI. As a result, we assume that the negative contribution from state and local government enterprises is artificially lowering GDI in 2023.

[3] See Tina Highfill, "Better Reflecting Transitions in Market Production by Government Functions Over Time: Updating the Classification of State and Local Government Enterprises in the National Income and Product Accounts," BEA Working Paper WP2022-8.

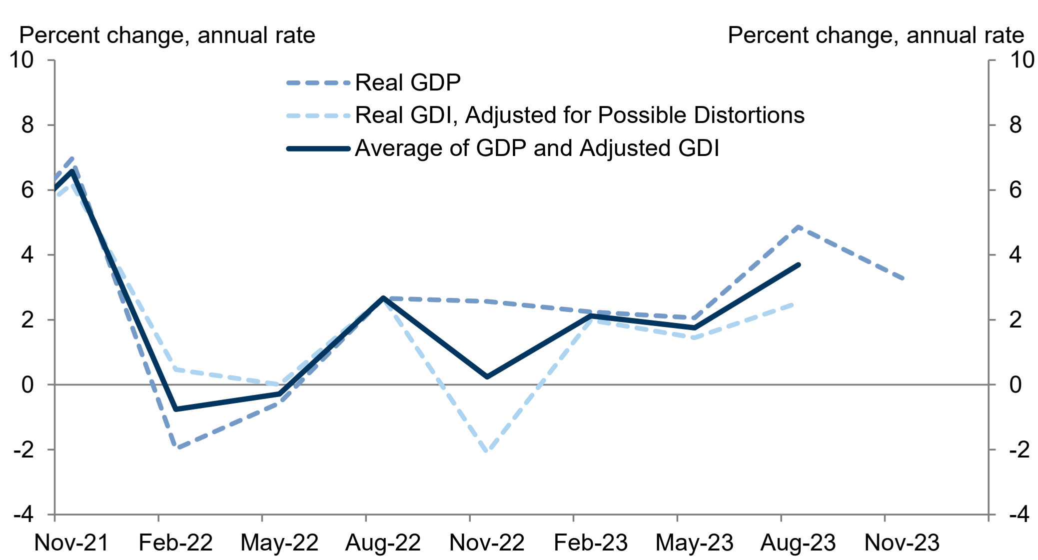
Exhibit 9: The Outdated Classification of State and Local Government Enterprises Is Generating a 0.1pp Drag on YoY GDI Growth in 2023Q3



Source: Department of Commerce, Goldman Sachs Global Investment Research

To gauge "true" growth in the four quarters to 2023Q3, we would use the average of GDP (2.9%) and GDI adjusted for our four distortions (1.3%). The resulting 2.1% estimate implies that the US economy grew at a pace close to or very slightly above potential (Exhibit 10). This is also consistent with the performance of the labor market over the past 12-18 months.

Exhibit 10: Taken Together, GDP and GDI Suggest That Activity Growth Was Modestly Above Potential Over the Last Year



Source: Department of Commerce, Goldman Sachs Global Investment Research

Manuel Abecasis

The US Economic and Financial Outlook

THE US ECONOMIC AND FINANCIAL OUTLOOK
(% change on previous period, annualized, except where noted)

	2022	2023 (f)	2024 (f)	2025 (f)	2026 (f)	2027 (f)	2023 Q1	Q2	Q3	Q4	2024 Q1	Q2	Q3	Q4
OUTPUT AND SPENDING														
Real GDP	1.9	2.5	3.0	2.1	2.0	2.0	2.2	2.1	4.9	3.3	2.9	2.6	2.3	2.0
Real GDP (annual=Q4/Q4, quarterly=yoy)	0.7	3.1	2.4	2.1	1.9	2.0	1.7	2.4	2.9	3.1	3.3	3.4	2.8	2.4
Consumer Expenditures	2.5	2.2	2.6	2.1	2.0	2.0	3.8	0.8	3.1	2.8	3.5	2.0	2.2	2.2
Residential Fixed Investment	-9.0	-10.7	3.9	2.8	3.0	2.4	-5.3	-2.2	6.7	1.0	6.7	4.5	3.5	2.0
Business Fixed Investment	5.2	4.4	2.6	3.3	3.8	3.6	5.7	7.4	1.5	1.9	3.0	2.5	2.0	2.7
Structures	-2.1	12.7	3.5	-1.1	2.9	3.0	30.3	16.1	11.2	3.2	5.8	1.0	-5.0	-6.0
Equipment	5.2	-0.1	2.1	5.5	3.8	3.2	-4.1	7.7	-4.4	1.0	1.4	3.0	5.0	7.0
Intellectual Property Products	9.1	4.3	2.7	3.9	4.3	4.5	3.8	2.7	1.8	2.1	2.8	3.0	3.5	4.0
Federal Government	-2.8	4.2	1.5	0.0	0.0	0.0	5.2	1.1	7.1	2.5	0.6	0.0	0.0	0.0
State & Local Government	0.2	3.8	2.9	1.1	1.0	1.0	4.6	4.7	5.0	3.7	2.1	3.0	1.0	1.0
Net Exports ($bn, '17)	-1,051	-926	-893	-925	-938	-926	-935	-928	-931	-908	-890	-891	-893	-899
Inventory Investment ($bn, '17)	128	51	65	78	60	60	27	15	78	83	41	62	78	78
Industrial Production, Mfg.	2.7	-0.6	1.4	3.4	3.3	3.3	-0.3	0.4	-0.3	-2.3	2.3	3.2	3.4	3.5
HOUSING MARKET														
Housing Starts (units, thous)	1,551	1,415	1,469	1,540	1,584	1,590	1,385	1,450	1,371	1,454	1,425	1,457	1,483	1,511
New Home Sales (units, thous)	637	668	787	840	848	885	638	691	693	652	746	777	807	818
Existing Home Sales (units, thous)	5,081	4,098	4,179	4,634	4,709	4,910	4,327	4,250	4,020	3,797	3,935	4,134	4,260	4,389
Case-Shiller Home Prices (%yoy)*	7.5	5.6	5.5	4.4	4.9	4.9	2.3	-0.2	2.5	5.6	7.6	7.4	6.4	5.5
INFLATION (% ch, yr/yr)														
Consumer Price Index (CPI)**	6.4	3.3	2.5	2.4	2.2	2.2	5.7	4.0	3.6	3.2	3.0	2.9	2.6	2.5
Core CPI **	5.7	3.9	2.8	2.3	2.3	2.3	5.5	5.2	4.4	4.0	3.6	3.1	3.1	2.9
Core PCE** †	4.9	2.9	2.2	2.0	2.0	2.0	4.8	4.6	3.8	3.2	2.6	2.2	2.2	2.2
LABOR MARKET														
Unemployment Rate (%)^	3.5	3.7	3.6	3.6	3.6	3.6	3.5	3.6	3.8	3.7	3.6	3.6	3.6	3.6
U6 Underemployment Rate (%)^	6.5	7.1	6.9	6.9	6.9	6.9	6.7	6.9	7.0	7.1	6.9	6.9	6.9	6.9
Payrolls (thous, monthly rate)	377	255	134	75	75	75	305	274	213	227	211	125	100	100
Employment-Population Ratio (%)^	60.1	60.1	60.1	59.9	59.8	59.6	60.4	60.3	60.4	60.1	60.3	60.3	60.2	60.1
Labor Force Participation Rate (%)^	62.3	62.5	62.4	62.2	62.0	61.8	62.6	62.6	62.8	62.5	62.6	62.5	62.5	62.4
Average Hourly Earnings (%yoy)	5.4	4.5	3.8	3.3	3.3	3.3	4.6	4.6	4.5	4.3	4.1	3.9	3.6	3.5
GOVERNMENT FINANCE														
Federal Budget (FY, $bn)	-1,375	-1,700	-1,700	-1,900	-1,900	-2,050	--	--	--	--	--	--	--	--
FINANCIAL INDICATORS														
FF Target Range (Bottom-Top, %)^	4.25-4.5	5.25-5.5	4-4.25	3.25-3.5	3.25-3.5	3.25-3.5	4.75-5	5-5.25	5.25-5.5	5.25-5.5	5.25-5.5	4.75-5	4.25-4.5	4-4.25
10-Year Treasury Note^	3.88	3.88	4.00	4.00	4.00	4.00	3.48	3.81	4.59	3.88	3.85	3.75	3.85	4.00
Euro (€/$)^	1.07	1.11	1.11	1.15	1.15	1.15	1.09	1.09	1.06	1.11	1.08	1.09	1.10	1.11
Yen ($/¥)^	132	141	141	130	125	120	133	144	149	141	147	144	142	141

* Weighted average of metro-level HPIs for 381 metro cities where the weights are dollar values of housing stock reported in the American Community Survey. Annual numbers are Q4/Q4.
** Annual inflation numbers are December year-on-year values. Quarterly values are Q4/Q4.
† PCE = Personal consumption expenditures. ^ Denotes end of period.
Note: Published figures in bold.
Source: Goldman Sachs Global Investment Research.

Source: Goldman Sachs Global Investment Research

Disclosure Appendix

Reg AC

We, Jan Hatzius, Alec Phillips, David Mericle, Spencer Hill, CFA, Ronnie Walker, Manuel Abecasis, Tim Krupa, Elsie Peng and Jessica Rindels, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

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