US Watch

Capex watch: some signs of acceleration, but can it last?

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UAW = United Auto Workers

IRA = Inflation Reduction Act

IIJA = Infrastructure, Investment and Jobs Act

Key takeaways

- Structures and equipment investment exceeded expectations in 2Q, and our current 3Q tracking carries forward that momentum.
- Fiscal policy measures have buoyed activity in some sectors and along with growth in autos have offset weakness elsewhere.
- Despite recent acceleration, there are potential 4Q headwinds from the UAW strike & financial tightening due to higher rates.

The non-residential surge

The 3Q advance GDP report will be coming out today. We expect a strong 4.5% q/q saar print. The robust US economy has been driven by a resilient consumer, a housing market that might have found its bottom and a surge in non-residential investment. Structures and equipment investment exceeded expectations in 2Q, and our current 3Q tracking carries forward that momentum.

Fiscal Policy CHIPS in

The CHIPS Act and the IRA have buoyed activity. Manufacturing has accounted for most of the growth observed in structures over the last three quarters, with a similar pattern seen in manufacturing construction spending as well.

Strength in a few sectors offsets weakness elsewhere

Strength in manufacturing is offsetting the weakness in sectors such as commercial structures that have been impacted by post-pandemic structural changes. Activity in sectors like construction spending for computer and electronic manufacturing as well as clean energy projects has risen exponentially on the back of the CHIPS Act and the IRA.

Autos have supported manufacturing

The autos sector has been another tailwind. Motor vehicle assemblies have recovered as supply chain constraints have eased. However, inventories remain low, so there is further room for autos to support manufacturing once the UAW strike ends.

Latest monthly data pointing toward an acceleration

After some recent weakening, the latest data suggest that activity in the business investment sector might be accelerating. Manufacturing ex autos posted its first positive print since October 2022, auto & computer shipments and auto production picked up, some manufacturing indices are starting to turn expansionary and non-residential construction spending was strong. In addition to fiscal policy measures spurring activity and the auto sector showing strong growth, firms might also be starting to take advantage of easing inflation and normalizing supply chains.

Despite recent positive signals, there are potential headwinds in 4Q that might cause business investment to level off, including the UAW strike and the substantial tightening in financial conditions over the last few weeks.

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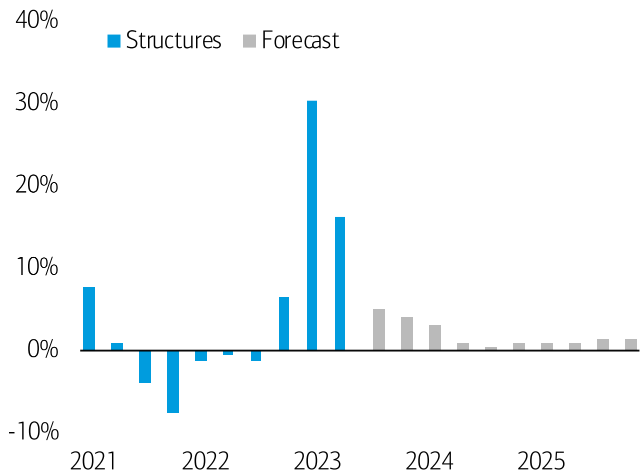
The non-residential surge

The 3Q advance GDP print will be coming out this week with consensus and our official forecast at a strong 4.5% q/q saar. This robust US economy in addition to being driven by a resilient consumer, a housing market that has found its bottom, is also being driven by non-residential investment, another rates sensitive sector that has been stabilizing.

Fixed investment surged to 5.2% q/q saar in 2Q 23 from -5.4% in 4Q. This was on the back of a rise in nonresidential investment to a strong 7.4% quarterly annualized pace. Structures and equipment spending were well above our forecast, with structures coming in at a strong 16.1% in 2Q (Exhibit 1) and equipment rebounding 7.7% q/q saar (Exhibit 2). We had carried forward this momentum in our official forecast, with structures investment growing at a modest pace of 5.0% and 4.0% in the last two quarters of this year and our outlook for equipment spending was at 6.0% and 5.0%, respectively. Also, before the 3Q GDP print this week, we are tracking 6.2% q/q saar for structures in 3Q and 7.7% for equipment.

Although some recent incoming data had been pointing to a mild manufacturing downturn, fiscal policy measures like CHIPS, IRA that have spurred activity in certain industries like computers along with healthy activity in autos have helped offset weakness elsewhere. Also, based on recent incoming data, it looks like there are signs of the sector accelerating as firms might be starting to take advantage of easing inflation and normalizing supply chains.

Exhibit 1: Real non-residential structures investment (%q/q saar)
Structures investment has surged largely due to fiscal policy



Source: Bureau of Economic Analysis, Haver Analytics

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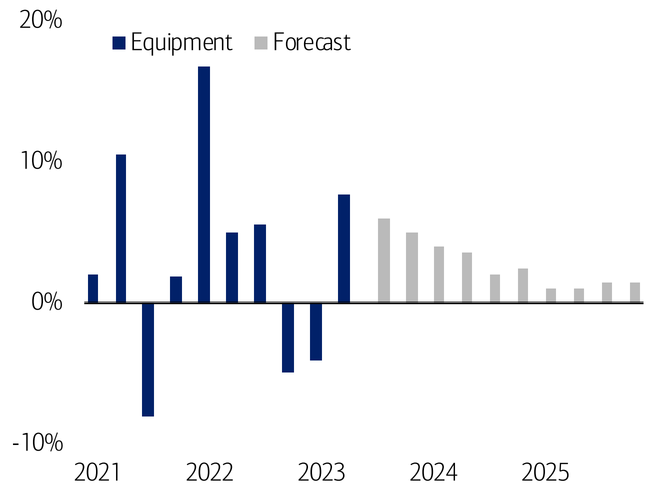
Exhibit 2: Real non-residential equipment investment (%q/q saar)
Equipment investment surged in 2Q



Source: Bureau of Economic Analysis, Haver Analytics

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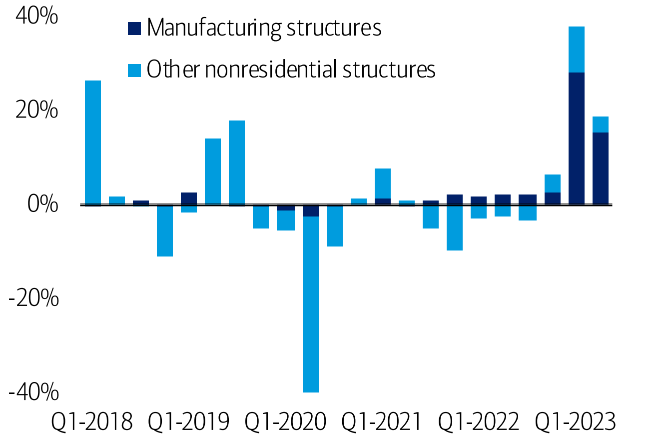
Fiscal Policy CHIPS in

We have pointed out in recent months that the CHIPS and Science act has likely led to a surge in nonresidential structures investment in the manufacturing sector. Despite accounting for less than one fifth of total nonresidential structures investment, growth in manufacturing structures investment has accounted for most of the growth seen in structures investment over the last three quarters (Exhibit 3). Also, manufacturing construction spending has been driving the growth in non-residential construction spending since the beginning of this year (Exhibit 4). Additionally, the Infrastructure, Investment and Jobs act (IIJA) has contributed to a surge in government Investment seen this year (Exhibit 5). The bill will continue to provide support throughout our forecast horizon, though at a diminishing growth rate.

Exhibit 3: Contribution to q/q annualized growth in nonresidential structures

Investment in manufacturing structures has driven growth in structures of late



Source: BofA Global Research, Bureau of Economic Analysis, Haver Analytics

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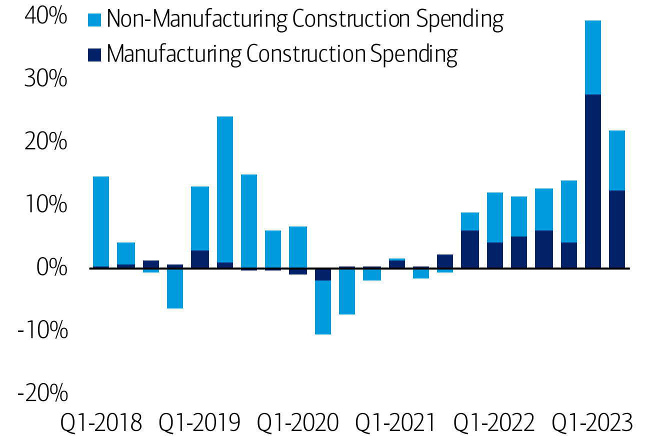
Exhibit 4: Contribution to q/q annualized growth in nonresidential construction spending

Manufacturing construction spending has been driving the growth in non-residential construction spending since the beginning of this year



Source: BofA Global Research, Census Bureau, Haver Analytics

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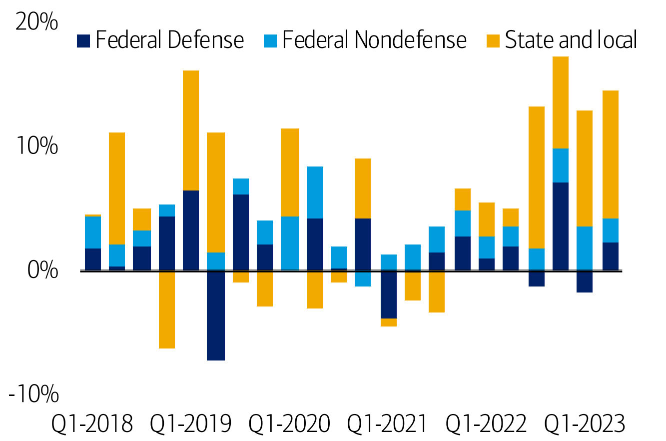
According to the Brookings Institution, since the second quarter of 2022, there has been as increase in the contribution of fiscal policy to real GDP growth (Exhibit 6), likely on the back of acts like CHIPS, IRA etc. Also, according to Dimple Gosai, our head of US ESG Research, the IRA has led to announced investments totaling $130bn (ESG Matters - US: The $130bn ripple effect of the IRA report). Hence in addition to a rise in investment in sectors like computers, semiconductors etc on the back of reshoring, there has also been an increase in business spending in sectors like clean energy as part of the IRA. Though it is likely that we have yet to see the impact of the full impact of the IRA on structures and equipment investment.

Exhibit 5: Contributions to q/q annualized growth in government gross investment

The IIJA has helped reverse a slowdown in state and local government investment



Source: BofA Global Research, Bureau of Economic Analysis, Haver Analytics

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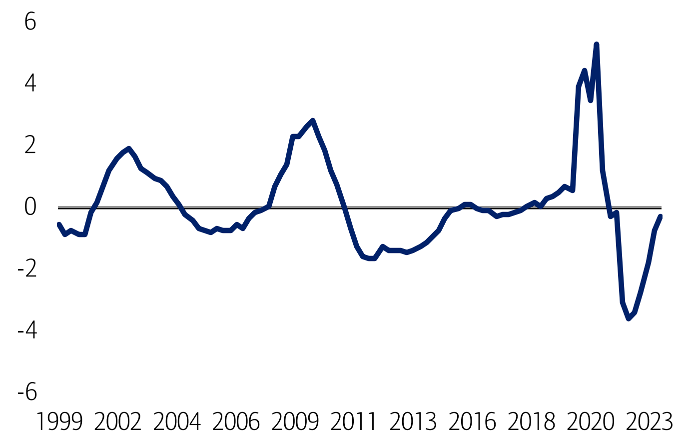
Exhibit 6: Hutchins Center Fiscal Impact Measure (quarterly contribution of fiscal policy to real GDP growth)

Since the second quarter of 2022, there has been as increase in the contribution of fiscal policy to growth on the back of acts like CHIPS, IRA



Source: Brookings Institute (Hutchins Center)

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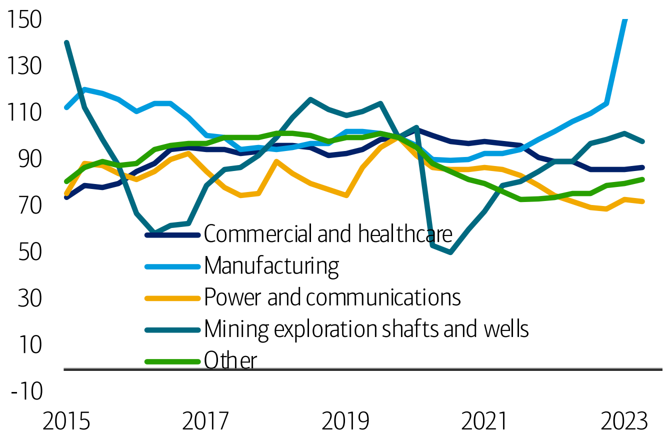
Strength in a few sectors offsets weakness elsewhere

Strength in manufacturing is offsetting the weakness elsewhere in sectors like commercial structures (Exhibit 7) because office occupancy is still well below pre pandemic levels (Exhibit 8). This is likely due to structural changes post pandemic like work from home/hybrid arrangements. A recent paper by the real estate professor, Stijn Nieuwerburgh et al highlights this ((NYCempty_commercial_03202023.pdf (squarespace.com) and Work from Home and the Office Real Estate Apocalypse by Arpit Gupta, Vrinda Mittal, Stijn Van Nieuwerburgh : SSRN). They show that remote work led to large drops in lease revenues, occupancy, lease renewal rates, and market rents in the commercial office sector. They mention that physical office occupancy in the major office markets of the U.S. fell from 95% at the end of February 2020 to 10% at the end of March 2020, and has remained depressed ever since, only gradually creeping back to 47% by November 2022.

Exhibit 7: Non-residential structures investment (Q4 2019 = 100)
Strength in manufacturing is offsetting weakness elsewhere



Source: Bureau of Economic Analysis, Haver Analytics

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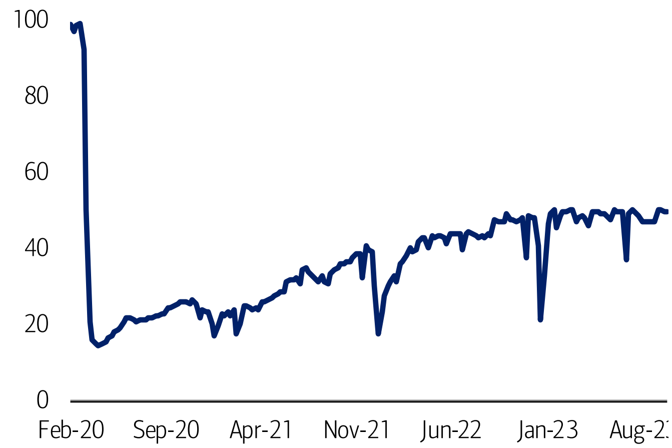
Exhibit 8: Kastle back to work barometer
Office occupancy is still below its pre-pandemic level



Source: Real Capital Analytics, Kastle System

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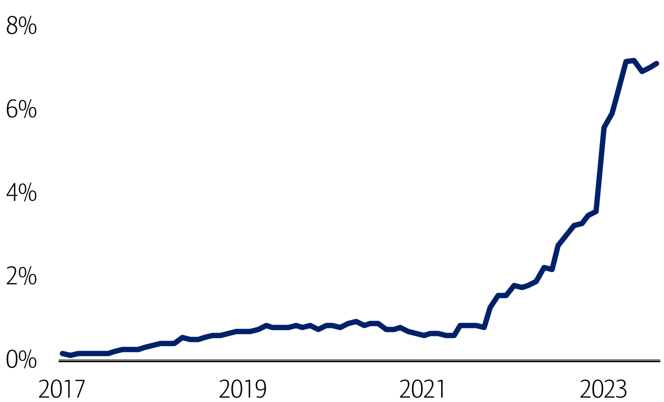
But there is strength in some other sectors like construction spending in the computer, electronic, and electrical manufacturing industry which has risen exponentially on the back of the CHIPS act (Exhibit 9). There has also been an increase in business spending in sectors like clean energy as part of the IRA. As per the E2 Clean Economy works tracker, since the IRA was announced, 236 new projects have been announced across 40 states with a total investment of $92.7bn, creating a total of 83k jobs. Though it is likely that the full impact of this has been realized yet.

Exhibit 9: Computer, electronic and electrical manufacturing construction spending as a share of total private construction spending
Construction spending has surged for the computer, electronic and electrical manufacturing industry



Source: Census Bureau, BofA Global Research, Haver Analtyics

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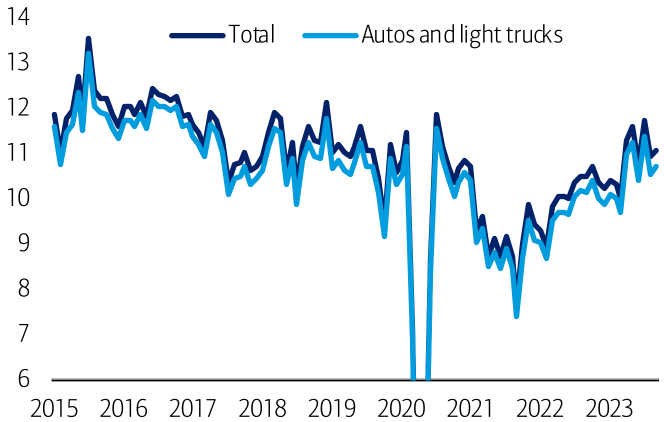
Autos have supported manufacturing

In addition to certain categories like computers which are being propped up by fiscal policy, another sector that is a tailwind to non-residential investment is autos. Motor vehicle assemblies have recovered as supply chain constraints have eased (Exhibit 10) but the UAW strike could reverse some of this progress. But until now the effect of the strike has been lower than we had initially assumed. Also inventories still remain low relative to pre-pandemic levels (Exhibit 11). Therefore, there is further room for autos to support manufacturing. Also, new auto sales have a decent shortfall since the start of the pandemic. So, auto sales have room to accelerate further, supporting durable goods spending in coming quarters which will be another tailwind for consumer spending.

Exhibit 10: Motor vehicle assemblies (SAAR, mil. Units)
Motor vehicle assemblies have recovered but UAW strike could reverse progress



Source: Federal Reserve Board, Haver Analytics
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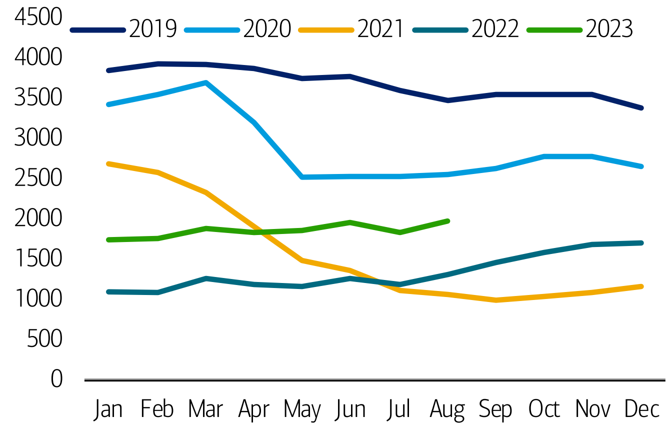
Exhibit 11: Auto and truck inventories (NSA, units)
Auto inventories have recovered somewhat this year but still remain below pandemic levels, leaving further room for autos to support the sector



Source: Bureau of Economic Analysis, Ward's Automotive Group, Haver Analytics
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Latest monthly data pointing towards an acceleration

Factory orders exceed expectations

Factory orders exceeded expectations with a 1.2% m/m print in August after a 2.1% decline in July. This is owed mainly to a ~19% m/m rise in defense aircraft and parts and ship and boat building. Hence, excluding transportation, factory orders rose by a higher than expected1.4% m/m after an upwardly revised print of 0.9%. Durable goods orders ex transportation also posted a more modest and unchanged final print of 0.4% m/m. Meanwhile capital goods ex-defense and aircraft (core capital goods) orders that feed into our GDP tracking came in unchanged at 0.9% m/m in the final print.

Factory shipments came in at 1.3% m/m after a 0.7% rise in the previous month. This was on the back of a 2.1% rise in non-durable goods shipments and a 0.5% rise in durable goods. The rise in non-durable goods orders was mostly driven by the 8.8% rise in petroleum and coal products. Within durable goods, automobile manufacturing and computer and related products manufacturing shipments saw a meaningful increase. Meanwhile, core capital goods shipments remained unchanged at 0.7% from the preliminary print.

Strength in some sectors, autos, computers, etc are helping to offset weakness elsewhere. Also, it looks like despite investment slowing down, firms might be starting to take advantage of easing inflation and normalizing supply chains.

Manufacturing ex autos starting to turn around

September industrial production topped expectations with a 0.3% m/m increase. Manufacturing output rose by 0.4% m/m despite the UAW strike which started on September 15. Despite the strike, motor vehicle production increased by 0.3% m/m, following a 4.0% decline in August.

Meanwhile, manufacturing ex motor vehicle and parts rose by 0.3% m/m for a second consecutive month. Additionally, the aggregate sector recorded a three-month annualized growth of 2.1% in September, its first positive reading since October 2022. This suggests that the broader manufacturing ex autos is starting to turn things around.

Aside from manufacturing, utilities production fell by 0.4% m/m and mining production rose by 0.5% m/m. In short, the data suggest that activity in the industrial sector continues to show signs of accelerating after some recent weakening.

Manufacturing indices turning expansionary

ISM manufacturing topped expectations with a 49.0 print. This is also an increase from the 47.6 in the prior month. Any reading below 50 still indicates a contraction but the index remains above levels consistent with a broader economic slowdown. Though the sector was stuck in a mild downturn, but that narrative seems to be changing.

Looking at the details, production rose to 52.5 from 50.0, the first above 50 reading since May and highest since July 2022. New orders also rose to 49.2 from 46.8, highest since August 2022 but still below 50. Additionally, employment improved to 51.2 from 48.5, the first above 50 reading since May. Also, there is relief in declining commodities prices. The group's index of prices paid for materials dropped 4.6 points, the most in four months, to 43.8 in September.

The preliminary October S&P Global US manufacturing PMI printed at 50.0, a slight improvement from 49.8 in September. This was the first 50 or above reading since April. Employment fell to 49.8 from 51.9 in Sept, the lowest reading since July 2020. New orders rise vs prior month, highest reading since Sept. 2022. In short, the data suggest that activity in the sector continues to show signs of accelerating after some mild weakening.

Services indices remain in expansionary territory

ISM services came in near expectations at 53.6 in September, retracing some of the 1.8pt increase seen in August but continuing to signal expanding activity in the sector. While business activity ticked up mildly from 57.3 to 58.8, an almost 6.0 pt drop in new orders suggests that demand for services might be showing signs of weakening. Prices paid remained elevated at 58.9.

The preliminary October S&P Global US services PMI increased to 50.9 from the 50.1 print in September. This is the highest reading since July 2023. Employment fell to 51.5 from 51.9 in Sept and prices charged fell vs the prior month to the lowest reading since May 2020.

Healthy consumer spending has continued to support the service sector, as evidenced by the strong employment growth seen in the sector recently. That said, the sector could face some headwinds in 4Q owing to the resumption in student loan payments and higher gas prices.

Non-residential construction spending being buoyed by fiscal policy

Construction spending increased 0.5% m/m in August as expected, after a revised up 0.9% pickup in July. Residential construction spending grew again albeit at a milder pace of 0.6% m/m. Single family construction still led residential spending at 1.7% m/m. This is broadly in line with our view that the housing sector has neared the bottom, but we are cautious of potential headwinds with the challenging market of high mortgage rates and prices. On the nonresidential side, we expect fiscal policy measures like CHIPS, IRA, IIJA to continue to spur spending on manufacturing structures, helping to offset weakness elsewhere. Nonresidential construction picked up 0.4% m/m, a one-tenth increase from the prior month.

This data came alongside meaningful upward revisions to 1H23 business investment in the annual benchmark GDP revisions. The resilience in business investment is starting to drive the narrative.

The path ahead

Despite recent positive signals, there are some potential headwinds in 4Q that might see business investment levelling off as Powell and Waller suggested in the latest Fedspeak.

First, the UAW strike looms large for 4Q. Up until now, the impact of the strike has been much smaller than we had anticipated, because the UAW has chosen to start small and gradually ramp up the number of workers on strike and hence the impact on production has also been proportionally smaller. Therefore, the impact of the strike on 3Q production was likely negligible. But going into 4Q, we think a reasonable base case is that the strike lasts four-to-five more weeks and takes 0.2-0.3pp off 4Q GDP. But one confounding factor is that these "strategic strikes" are less of a drain on UAW's ~$825mn strike fund. This gives the union greater leverage because it has the capacity to draw out the strike for longer.

Second, the rise is real rates since end-August leading to a tightening of financial conditions over the last few weeks. If financial tightening proves persistent, it would put downward pressure on aggregate demand through rise in mortgage rates and corporate bond yields affecting both residential and business investment. Business investment has surged this year on the back of fiscal policy. Despite a mild downturn, there are signs of acceleration but, we think it is unlikely that business investment can continue to grow at its recent robust pace in an environment of much higher interest rates and tighter lending standards.

Lastly, structures investment will also overall trend downwards but might be higher than equipment spending due to some offsetting from tailwinds from fiscal policy measures (CHIPS etc) which have a lower impact on equipment spending.

Exhibit 12: Capex Details (SA, m/m % change)
New Orders, Shipments and Inventories

New Orders	Aug-23	Jul-23	Jun-23	May-23	Apr-23	Mar-23	Feb-23	Jan-23	Dec-22	Nov-22	Oct-22	Sep-22
Factory Goods	1.2%	-2.1%	2.3%	0.4%	0.3%	0.6%	-1.7%	0.0%	1.0%	-2.4%	0.9%	0.1%
Ex-transportation	1.4%	0.9%	0.3%	-0.4%	-0.6%	-1.0%	-0.4%	0.9%	-1.2%	-1.3%	0.5%	0.0%
Durable Goods	0.1%	-5.6%	4.3%	2.0%	1.2%	3.3%	-2.7%	-1.3%	4.5%	-3.1%	1.0%	0.3%
Ex-transportation	0.4%	0.1%	0.1%	0.7%	-0.6%	0.3%	0.1%	0.3%	0.3%	-0.5%	0.0%	0.0%
Ex-defense	-0.7%	-6.0%	5.8%	3.1%	-0.5%	3.2%	-2.3%	-1.8%	4.9%	-3.7%	0.5%	2.0%
Capital goods	-0.2%	-14.6%	10.9%	2.6%	5.1%	9.4%	-8.5%	-4.9%	14.3%	-8.5%	2.8%	-0.6%
Non-defense	-2.9%	-16.7%	16.8%	6.6%	0.2%	9.8%	-8.1%	-6.3%	16.4%	-11.1%	2.4%	4.5%
ex-aircraft	0.9%	-0.4%	-0.4%	0.4%	0.7%	-0.6%	-0.2%	0.9%	0.6%	-1.1%	0.9%	-1.3%
3-mo avg annualized	0.4%	-1.7%	2.9%	2.2%	-0.2%	0.3%	5.3%	1.4%	1.3%	-6.1%	2.0%	0.1%
Defense	15.1%	1.7%	-18.3%	-12.7%	28.8%	5.9%	-8.7%	6.9%	-1.1%	7.6%	8.9%	-24.6%
Transportation	-0.3%	-14.9%	11.9%	4.2%	4.8%	9.8%	-8.3%	-4.2%	13.6%	-8.2%	3.0%	0.9%
Vehicles	0.3%	0.7%	-0.2%	2.5%	-0.2%	-0.2%	0.0%	0.6%	0.2%	0.4%	0.2%	1.8%
Computers, electronics	0.3%	-0.6%	1.2%	0.8%	-1.8%	1.8%	0.5%	-0.2%	-0.2%	0.3%	-0.8%	-0.5%
Electrical equipment	1.0%	-0.3%	0.4%	2.4%	-2.8%	0.4%	1.4%	2.9%	4.6%	-4.3%	0.5%	-0.7%
Machinery	0.6%	0.8%	-0.6%	0.6%	0.4%	-0.1%	-0.1%	0.2%	-1.6%	-0.3%	1.2%	-0.7%
Primary metals	-1.0%	-0.2%	0.1%	0.8%	-0.5%	0.5%	0.6%	0.7%	0.7%	-1.6%	-1.4%	4.1%
Fabricated metals	0.6%	0.7%	0.8%	0.1%	-0.2%	0.7%	0.3%	-0.8%	0.3%	-0.5%	0.0%	-1.3%
All other durable goods	0.6%	-0.4%	-0.5%	0.7%	-0.3%	-0.5%	-0.7%	0.4%	0.5%	0.4%	0.0%	-0.3%
Non Durable Goods	2.1%	1.5%	0.4%	-1.1%	-0.7%	-1.8%	-0.7%	1.2%	-2.0%	-1.8%	0.9%	0.0%
Shipments												
Factory Goods	1.3%	0.7%	0.2%	0.4%	-0.6%	-0.6%	-0.6%	0.7%	-1.0%	-0.7%	0.5%	0.2%
Ex-transportation	1.4%	0.9%	0.3%	-0.5%	-0.5%	-1.1%	-0.6%	1.1%	-1.3%	-1.1%	0.6%	-0.1%
Durable Goods	0.5%	-0.1%	0.0%	2.0%	-0.6%	0.7%	-0.5%	0.1%	0.2%	0.5%	0.1%	0.4%
Ex-transportation	0.3%	0.0%	0.1%	0.6%	-0.2%	-0.1%	-0.3%	0.8%	-0.2%	0.0%	0.2%	-0.2%
Ex-defense	0.5%	-0.1%	-0.1%	2.2%	-0.9%	0.8%	-0.4%	0.2%	0.0%	0.5%	0.1%	0.5%
Capital goods	1.4%	-1.2%	0.4%	3.2%	-1.0%	2.1%	-0.8%	-0.8%	0.3%	1.5%	1.2%	-0.4%
Non-defense	1.2%	-1.2%	0.0%	3.8%	-1.7%	2.6%	-0.7%	-0.9%	-0.4%	1.6%	1.4%	-0.3%
ex-aircraft	0.7%	-0.3%	0.0%	0.3%	0.5%	-0.2%	-0.3%	1.1%	-0.5%	0.2%	1.3%	-0.2%
3-mo avg annualized	1.8%	0.0%	3.1%	2.3%	-0.1%	2.4%	1.3%	3.3%	4.1%	5.3%	6.1%	3.5%
Defense	1.5%	-1.1%	2.3%	-1.1%	3.5%	-0.5%	-1.2%	-0.2%	3.6%	0.8%	0.3%	-1.0%
Transportation	0.9%	-0.3%	-0.1%	5.0%	-1.6%	2.6%	-0.9%	-1.4%	1.0%	1.5%	0.0%	1.7%
Vehicles	0.1%	1.0%	-0.4%	2.6%	-0.1%	0.2%	-0.5%	0.4%	0.4%	-0.1%	-0.6%	2.7%
Nondefense aircraft	4.0%	-4.7%	-0.2%	29.2%	-14.5%	22.6%	-1.8%	-11.8%	0.2%	11.2%	1.6%	-1.1%
Computers, electronics	0.3%	0.4%	-0.1%	0.5%	-0.4%	-0.6%	0.0%	0.5%	-0.5%	0.5%	0.2%	0.5%
Electrical equipment	1.3%	0.0%	-0.1%	1.0%	-1.1%	0.9%	-1.2%	4.0%	-0.3%	3.0%	-0.2%	0.1%
Machinery	0.9%	0.4%	0.3%	0.3%	0.8%	-0.4%	0.1%	0.8%	-1.1%	-0.5%	1.0%	0.8%
Primary metals	-0.4%	-0.8%	-0.3%	0.5%	-0.1%	0.1%	-0.3%	1.8%	0.1%	-1.1%	0.1%	-1.9%
Fabricated metals	0.2%	0.0%	1.0%	0.2%	-0.4%	0.1%	0.1%	-0.2%	0.0%	-0.3%	-0.3%	-0.5%
All other durable goods	0.1%	-0.2%	-0.4%	1.0%	-0.4%	-0.3%	-0.8%	0.4%	0.4%	0.2%	0.1%	-0.2%
Non Durable Goods	2.1%	1.5%	0.4%	-1.1%	-0.7%	-1.8%	-0.7%	1.2%	-2.0%	-1.8%	0.9%	0.0%
Inventories												
Durable Goods	0.2%	0.0%	0.0%	0.2%	1.0%	-1.0%	0.1%	0.2%	0.3%	0.0%	0.1%	0.3%
Nondefense cap goods	0.3%	0.0%	-0.1%	0.1%	2.2%	-1.8%	0.2%	0.2%	0.7%	0.2%	0.4%	0.6%
ex-aircraft	0.3%	0.0%	0.1%	0.2%	0.1%	0.3%	0.3%	0.3%	0.7%	0.4%	0.7%	1.1%
Non Durable Goods	0.5%	0.3%	-0.4%	-0.9%	-0.6%	-0.7%	-0.3%	0.0%	-0.3%	-0.1%	0.7%	0.1%

Source: Census Bureau, Haver Analytics

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Exhibit 13: ISM manufacturing summary table
ISM manufacturing index details

	Sep-23	Aug-23	Jul-23	Jun-23	May-23	Apr-23	Mar-23	Feb-23	Jan-23	Dec-22	Nov-22	Oct-22
Headline index	49.0	47.6	46.4	46	46.9	47.1	46.3	47.7	47.4	48.4	49	50
New orders	49.2	46.8	47.3	45.6	42.6	45.7	44.3	47	42.5	45.1	46.8	48.2
Production	52.5	50	48.3	46.7	51.1	48.9	47.8	47.3	48	48.6	50.9	51.9
Employment	51.2	48.5	44.4	48.1	51.4	50.2	46.9	49.1	50.6	50.8	48.9	49.9
Supplier deliveries	46.4	48.6	46.1	45.7	43.5	44.6	44.8	45.2	45.6	45.1	47.2	46.8
Inventories	45.8	44	46.1	44	45.8	46.3	47.5	50.1	50.2	52.3	51.1	53
Other measures not included in headline												
Prices (NSA)	43.8	48.4	42.6	41.8	44.2	53.2	49.2	51.3	44.5	39.4	43	46.6
New export orders	47.4	46.5	46.2	47.3	50	49.8	47.6	49.9	49.4	46.2	48.4	46.5
Backlog of orders (NSA0	42.4	44.1	42.8	38.7	37.5	43.1	43.9	45.1	43.4	41.4	40	45.3
Customer inventories	47.1	48.7	48.7	46.2	51.4	51.3	48.9	46.9	47.4	48.2	48.7	41.6
Leadtime (days)												
Capex	172	170	174	175	172	170	178	176	166	171	177	179
Production materials	84	87	84	83	84	90	87	88	87	85	84	93
Maintenance, repair and operating supplies	43	42	46	47	45	46	46	43	41	47	44	48
Production materials, commitments of 60 days+	70	70	65	66	67	70	66	68	67	70	69	71

Source: ISM, Haver Analytics

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Exhibit 14: ISM services summary table
ISM services index details

	Sep-23	Aug-23	Jul-23	Jun-23	May-23	Apr-23	Mar-23	Feb-23	Jan-23	Dec-22	Nov-22	Oct-22
ISM services	53.6	54.5	52.7	53.9	50.3	51.9	51.2	55.1	55.2	49.2	55.5	54.5
Business activity	58.8	57.3	57.1	59.2	51.5	52	55.4	56.3	60.4	53.5	61.6	55.6
New Orders	51.8	57.5	55	55.5	52.9	56.1	52.2	62.6	60.4	45.2	55.8	56.8
Employment	53.4	54.7	50.7	53.1	49.2	50.8	51.3	54	50	49.4	50.6	49.2
Supplier deliveries (NSA)	50.4	48.5	48.1	47.6	47.7	48.6	45.8	47.6	50.0	48.5	53.8	56.2
Prices	58.9	58.9	56.8	54.1	56.2	59.6	59.5	65.6	67.8	68.1	70.1	70.9
Backlog of orders	48.6	41.8	52.1	43.9	40.9	49.7	48.5	52.8	52.9	51.5	51.8	52.2
New export orders	63.7	62.1	61.1	61.5	59.0	60.9	43.7	61.7	59.0	47.7	38.4	47.7

Source: ISM, Haver Analytics

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Exhibit 15: Industrial Production: Summary table (m/m % change)
US industrial production and manufacturing output

IP	Sep-23 0.3%	Aug-23 0.0%	Jul-23 1.0%	Jun-23 -0.5%	May-23 -0.3%	Apr-23 0.5%	Mar-23 0.1%	Feb-23 0.0%	Jan-23 1.0%
Ex high-tech	0.3%	0.0%	1.0%	-0.6%	-0.3%	0.4%	0.1%	0.0%	1.1%
Ex vehicles	0.3%	0.3%	0.7%	-0.3%	-0.4%	0.0%	0.2%	0.0%	1.0%
Ex tech & vehicles	0.3%	0.3%	0.7%	-0.3%	-0.4%	-0.1%	0.2%	0.0%	1.1%
Industry groups									
Manufacturing	0.4%	-0.1%	0.4%	-0.6%	-0.2%	0.9%	-0.8%	0.3%	1.7%
Motor vehicle and parts	0.3%	-4.1%	6.1%	-4.5%	1.3%	9.3%	-1.9%	-0.1%	1.6%
Ex motor vehicle and parts	0.4%	0.2%	0.0%	-0.3%	-0.4%	0.2%	-0.7%	0.4%	1.7%
Utilities	-0.3%	0.7%	4.7%	-1.7%	-0.6%	-2.3%	6.2%	-0.8%	-7.2%
Electric	-0.3%	1.1%	5.6%	-2.4%	-0.9%	-1.5%	4.9%	-1.1%	-5.5%
Natural Gas	-0.5%	-2.0%	-0.5%	2.6%	1.3%	-7.0%	14.4%	0.9%	-16.6%
Mining	0.4%	0.2%	1.1%	0.6%	-0.3%	0.6%	0.4%	-1.0%	3.9%
Market groups									
Final Products	0.2%	0.0%	0.9%	-0.8%	-0.4%	0.7%	-0.1%	-0.2%	0.4%
Consumer goods	0.3%	-0.1%	1.3%	-1.5%	-0.7%	1.2%	0.2%	0.0%	-0.2%
Business equipment	-0.7%	0.1%	0.9%	-0.1%	-0.4%	1.3%	-1.1%	-0.7%	1.3%
Info processing	-0.6%	0.2%	0.8%	1.4%	-0.5%	1.1%	-0.9%	0.1%	0.6%
Defense and space	1.0%	1.1%	1.2%	2.0%	2.1%	0.6%	1.1%	0.4%	0.2%
Nonindustrial supplies	0.4%	0.1%	0.3%	-0.2%	-0.2%	-0.4%	-0.3%	-0.2%	1.2%
Construction supply	1.0%	-0.5%	0.0%	-0.5%	-0.1%	0.8%	-1.8%	-1.0%	2.8%
Business supplies	0.2%	0.4%	0.4%	0.0%	-0.3%	-0.9%	0.4%	0.2%	0.4%
Materials	0.4%	0.0%	1.0%	-0.2%	-0.1%	0.2%	0.3%	0.3%	1.8%
Energy	-0.1%	0.5%	2.5%	-0.3%	0.0%	-0.9%	2.2%	-0.5%	0.9%

Source: Federal Reserve, Haver Analytics, BofA Global Research

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Exhibit 16: Construction Spending (nominal, m/m % change)
Construction Spending details

	Aug-23	Jul-23	Jun-23	May-23	Apr-23	Mar-23	Feb-23	Jan-23	Dec-22	Nov-22	Oct-22	Sep-22
Total m/m % chg.	0.5	0.9	0.5	2.0	0.3	0.6	0.4	2.2	-0.1	0.6	-0.4	-0.6
y/y % chg	7.4	5.6	4.4	3.5	1.3	2.8	3.6	4.8	4.9	6.7	8.6	10.2
Private m/m % chg.	0.5	1.2	0.2	2.2	-0.1	0.5	0.0	2.4	-0.1	0.3	-0.7	-0.9
y/y % chg	5.6	3.7	1.6	0.7	-1.3	0.7	1.8	3.4	3.7	6.0	8.6	10.6
Residential m/m % chg.	0.6	1.6	0.8	3.5	-2.6	-0.1	-1.0	0.3	-1.3	-1.5	-1.5	-1.8
y/y % chg	-3.1	-5.9	-9.9	-11.9	-14.6	-10.8	-9.1	-6.2	-3.1	1.4	5.9	8.8
Single family m/m % chg.	1.7	2.7	2.0	1.9	-1.2	-1.4	-2.0	-1.7	-2.9	-3.4	-3.0	-3.5
y/y % chg	-10.6	-15.3	-21.3	-24.9	-26.5	-24.4	-22.1	-18.4	-15.0	-10.2	-5.1	-2.3
Multi-family m/m % chg.	0.6	-0.1	2.6	1.1	1.6	1.1	0.7	2.6	1.7	2.8	4.8	2.2
y/y % chg	24.0	24.9	23.8	23.1	20.4	21.0	18.6	19.2	14.3	12.9	9.2	4.8
Home improvement m/m % chg.	-0.7	1.0	-1.1	6.2	-5.6	0.9	-0.5	1.6	-0.5	-0.5	-1.7	-0.8
y/y % chg	-1.9	-3.2	-5.0	-4.6	-8.7	-1.6	0.7	2.8	8.0	14.6	21.6	27.9
Nonresidential m/m % chg.	0.3	0.6	-0.7	0.6	3.3	1.4	1.4	5.5	1.6	3.1	0.7	0.4
y/y % chg	19.7	19.8	21.8	23.2	22.2	21.3	21.0	20.2	15.5	13.6	13.0	13.5
Commercial and health care m/m % chg.	-0.4	0.4	1.1	-0.2	0.9	0.0	0.8	-1.5	2.8	1.2	1.5	-0.1
y/y % chg	6.6	7.5	8.7	8.7	7.6	10.1	11.1	11.7	15.1	12.4	14.4	13.1
Manufacturing m/m % chg.	1.2	1.6	-3.6	2.7	9.9	5.0	2.7	23.7	1.1	9.2	-1.6	2.4
y/y % chg	65.9	66.8	77.9	82.2	81.5	74.1	72.8	68.8	42.2	40.6	38.0	49.9
Power & Communication m/m % chg.	0.3	0.1	-1.2	-0.7	0.4	-0.5	1.3	4.8	0.2	0.9	0.4	-1.3
y/y % chg	4.6	3.1	2.4	4.2	4.5	2.7	2.5	0.8	-4.2	-6.3	-7.6	-8.9
Other Structures m/m % chg.	0.2	-0.2	1.5	1.0	1.3	1.4	0.7	-1.4	1.1	3.3	2.8	0.5
y/y % chg	12.9	13.1	13.8	12.0	11.0	13.5	12.6	14.4	18.5	17.6	15.4	13.5
Transportation m/m % chg.	0.7	1.4	1.1	1.0	0.7	-0.5	0.6	0.0	-0.2	2.2	0.0	7.2
y/y % chg	14.9	15.4	15.8	15.0	14.8	16.1	18.1	16.4	10.1	16.3	15.8	17.0
Public m/m % chg.	0.6	-0.1	1.6	1.3	1.8	1.0	1.8	1.6	0.2	1.8	0.9	0.8
y/y % chg	14.1	12.8	15.8	15.1	12.2	11.2	10.9	10.2	9.6	9.3	8.7	8.6
Residential m/m % chg.	-1.1	2.6	-3.6	1.3	-0.8	3.9	-0.3	3.7	-2.8	6.1	-2.5	-2.2
y/y % chg	3.8	1.0	3.3	7.7	6.1	3.9	-0.3	-0.6	-3.9	-2.1	-5.6	-0.7
Nonresidential m/m % chg.	0.6	-0.2	1.8	1.3	1.9	0.9	1.8	1.6	0.3	1.7	0.9	0.9
y/y % chg	14.4	13.1	16.2	15.3	12.4	11.4	11.2	10.5	10.0	9.6	9.1	8.9

Source: Census, Bureau, Haver Analytics

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