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Economics Weekly

Is Slowing Employment Growth Demand- or Supply-Driven?

Please refer to important disclosures on pages 16 and 17. Analyst certification is on page 16.

Chair Powell's comments at the press conference for the latest FOMC meeting highlight one of the biggest challenges for the Fed (and financial market participants) at the moment—deciding how much of the slowdown in the labor market is due to a shortage in the supply of workers and how much is due to softening demand. The answer to this has important, and potentially quite different, implications for monetary policy. **In this *Economics Weekly,* we discuss the evidence for each of these cases, with the view that it is likely a combination of both, requiring the removal of policy restrictiveness but little in the way of stimulus.**

> *So you do not see a weakening in the labor market. You do see a slowing in job creation, but also a slowing in the supply of workers. So you've got a labor market that's in balance, albeit partially because both demand and supply for workers is coming down at the same pace, and that's why the unemployment rate has remained roughly, roughly stable, which is why I said there—we do see downside risk in the labor market….. You know, the, the main number you have to look at now is the unemployment rate, because if it's true that the demand for workers in the form of, let's call it payroll jobs, that number has come down, but so has the breakeven number, kind of in tandem. So, you know, as long as that puts the labor market in, in balance. The fact that it's getting into balance due to declines in both supply and demand, though, I think is suggestive of downside risk….*
>
> *You've got a very low unemployment rate, and it's kind of been there for a year as job creation has moved down, but also we know that because of immigration policy really, the flow into our labor forces is just a great deal slower. And those two things have slowed more or less in tandem. If you look at things, like I mentioned, quits, look at wages—wages are gradually cooling—look at vacancies to unemployment, those things have been pretty stable, they haven't really moved a lot in a full year. So I think if you take the totality of the labor market data, you've got a solid labor market. But I think you have to see that there are downside risks.*
>
> - Fed Chair Powell, 30 July 2025

Supply-Side and the Immigration Factor

Labor force growth is in structural decline. This is the result of an aging population, with baby boomers increasingly moving out of the work force, and also a declining birthrate, leading to fewer new entrants at the other end of the labor market. The recent shift in the stance on immigration has also been starting to take a toll.

Net immigration into the U.S. over the past four years to 2024 has been enormous and has played a significant role in the pace of both economic growth and inflation. In its latest "Demographic Outlook," the CBO estimates net migration into the U.S. in the four years to 2024 totalled 10.3 million, more than 1 million more than the 9.2 million net migrants who entered the U.S. over the previous 10 years to 2020 (these figures include the CBO's estimates of undocumented workers, exhibit 1).

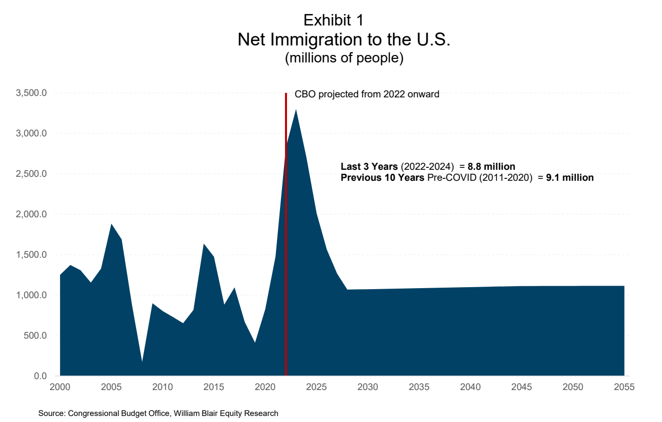


Exhibit 2, meanwhile, shows that most of the employment growth over these years has been for foreign-born workers and not native-born. Many might conclude that this increase in foreign-born employment has come at the expense of native-born workers, but that is unlikely to be the case.

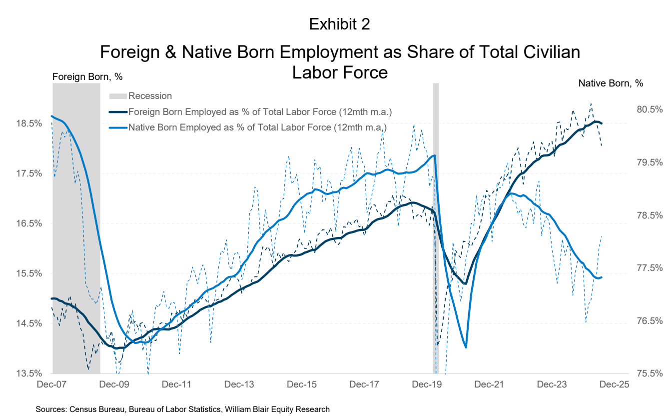
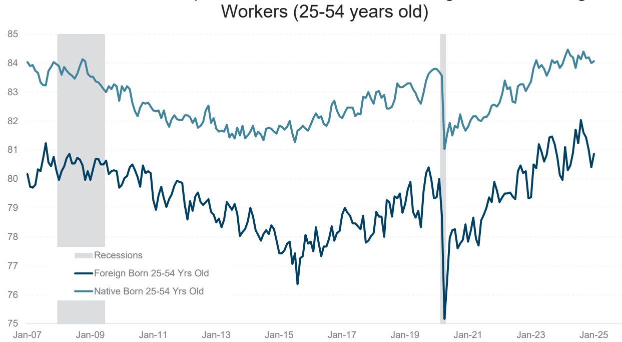


Exhibit 3 shows that the participation rates for prime-aged workers (to exclude the impact from boomers exiting the labor force) for both native- and foreign-born groups were increasing over this period. Furthermore, the participation rate for native-born workers not only recovered all of the lost ground following the pandemic, but is actually tangibly higher than it was before COVID (and the surge in immigration). This suggests that the sharp rise in the foreign-born employment was largely because there were simply not enough native-born workers either willing or able to satiate the economy's strong demand for labor. Companies over this period continued to complain about massive labor shortages.

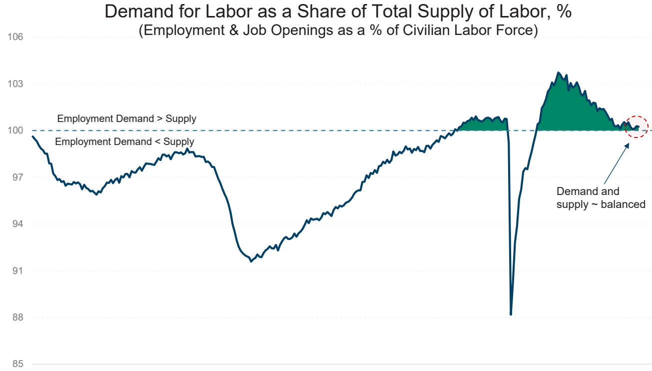
Exhibit 3
Labor Force Participation Rates for Native- & Foreign-Born Prime Aged Workers (25-54 years old)



Sources: Bureau of Labor Statistics, William Blair Equity Research

Indeed, as depicted in exhibit 4, the demand for labor (measured as the sum of employment and job openings) was outpacing the available supply (i.e., the civilian labor force) even before the onset of the pandemic—again, indicative of an extremely tight labor force. This exhibit also shows that today the supply and demand for labor are roughly in balance (as noted by Chair Powell above).

Exhibit 4
Demand for Labor as a Share of Total Supply of Labor, %
(Employment & Job Openings as a % of Civilian Labor Force)



Source: Bureau of Labor Statistics, William Blair Equity Research

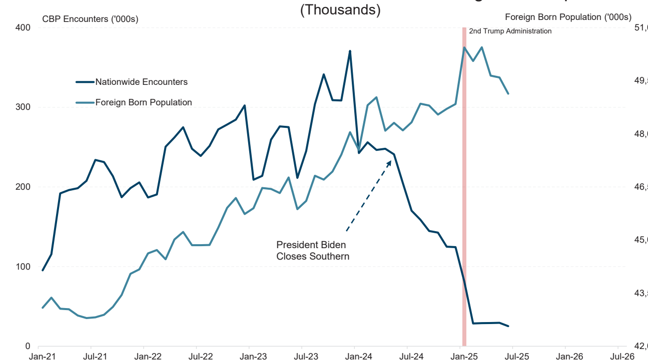
What is causing this balancing today is the crucial question.

Supply of Available Labor Has Fallen

As mentioned earlier, the decline in supply is largely structural, driven by demographics; however, the policies of both Presidents Biden and Trump have also led to a large decline in the inflows of undocumented migrants and may also now be starting to result in a lower number of foreign-born workers overall.

Exhibit 5 shows the number of border encounters starting to come down sharply beginning in June 2024 (which is when President Biden closed the southern border in an effort to improve his reelection campaign). The number of encounters has continued to fall under President Trump.

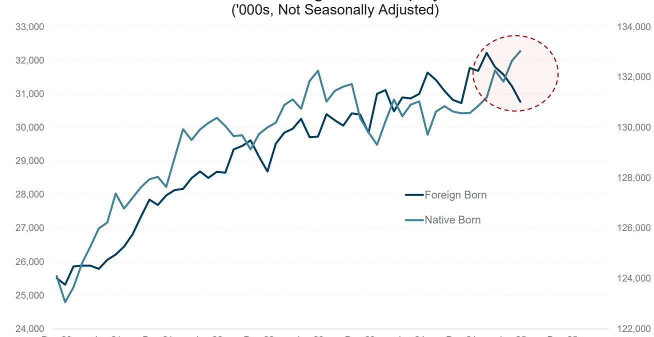
Exhibit 5
Customs and Border Protection Encounters vs. Foreign Born Population
(Thousands)



Sources: U.S. CBP, Census Bureau, William Blair Equity Research

Looking at employment for both native- and foreign-born workers, meanwhile, shows employment for foreign-born workers over the last three months has fallen by 1.0 million workers, compared to an increase of 769,000 native-born workers (exhibit 6).

Exhibit 6
Native vs. Foreign Born Employment
('000s, Not Seasonally Adjusted)



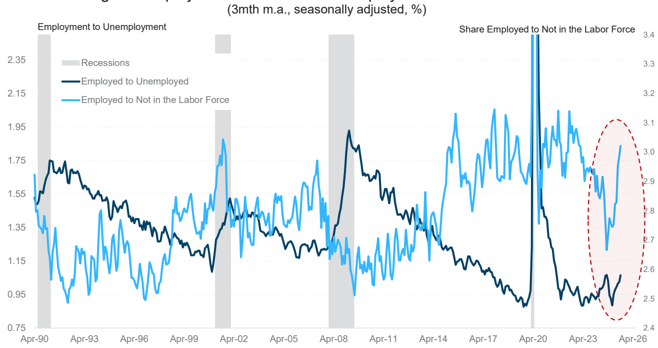
Sources: Bureau of Labor Statistics, William Blair Equity Research

It is also interesting to examine the flow of workers leaving employment. Workers who leave employment can either move into the "unemployed" bucket (i.e., not working but still actively looking for work) or they can drop out of the labor force altogether (i.e., into the "not in the labor force" bucket) if they are no longer actively seeking employment. Exhibit 7 shows there has been a large rise in the flow of workers moving from employment straight out of the labor force. This could be due to workers no longer viewing the economy as being strong enough for them to be reemployed anytime soon, so they give up looking for now. It could also be due to a shift toward retirement, returning to school, or illness. However, it might also be consistent with undocumented workers (who were often counted as employed) leaving the workforce due to the step-up in immigration controls.

Exhibit 7

Percentage of Employed Who Moved to Unemployment or Not in the Labor Force

(3mth m.a., seasonally adjusted, %)

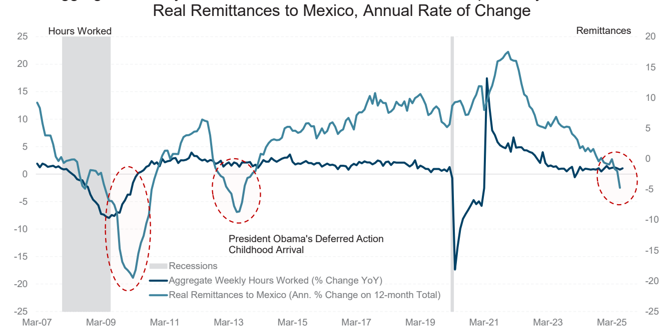


Sources: Bureau of Labor Statistics, William Blair Equity Research

This would be consistent with the decline in the flow of real remittances back to Mexico (exhibit 8). This is the biggest decline since President Obama's DACA program to offer temporary work permits to children brought to the U.S. illegally in previous years, and prior to that, during the global financial crisis, when the construction industry was decimated.

Exhibit 8

Aggregate Weekly Hours Worked for Production and Nonsupervisory Workers vs. Real Remittances to Mexico, Annual Rate of Change



Sources: Bureau of Labor Statistics, Banco de México, William Blair Equity Research

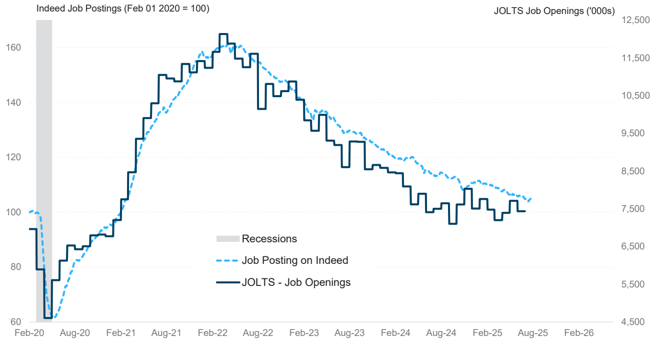
Workers moving from "employed" directly into the "not in the labor force" bucket is also consistent with Chair Powell's point about the lack of upward movement in the unemployment rate—more workers classified as not in the labor force rather than unemployed does not raise the unemployment rate, as they drop out of the unemployed/civilian labor force formula for unemployment altogether.

Demand for Labor Is Also Slowing

While the supply of labor is slowing due to a combination of demographic and geopolitical factors, private sector demand for labor has also continued to moderate. Importantly, it has not yet turned toward outright layoffs across the aggregate economy. The reality is still that many of these workers were incredibly hard to recruit and retain, and costly to train over the last few years. As a result, companies will be reluctant to see those hard-won assets walk out the door, particularly if any slowing in economic growth proves to be temporary. Rather, the data shows that companies are reducing their payrolls through a combination of less hiring and attrition (not replacing workers who naturally leave for various reasons).

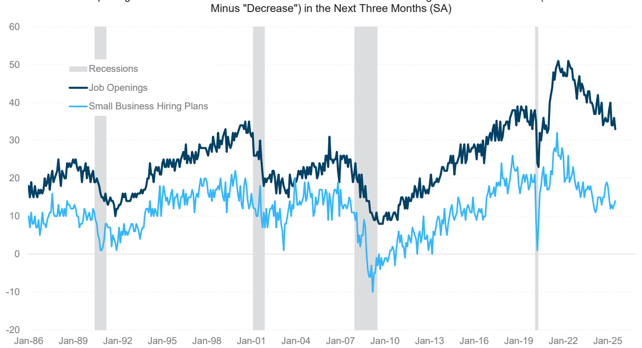
We can see this fall in demand from the ongoing reduction in job openings (exhibit 9), as well as survey data from small businesses on job openings and hiring plans (exhibit 10). As their demand for workers declines, smaller companies are unsurprisingly finding skilled labor shortages to be less of a problem than has been the case over the previous five years.

Exhibit 9
Job Openings
Real-Time Daily Job Postings on Indeed & Job Openings (JOLTS Report)



Sources: Hiring Lab (Indeed), Bureau of Labor Statistics, William Blair Equity Research

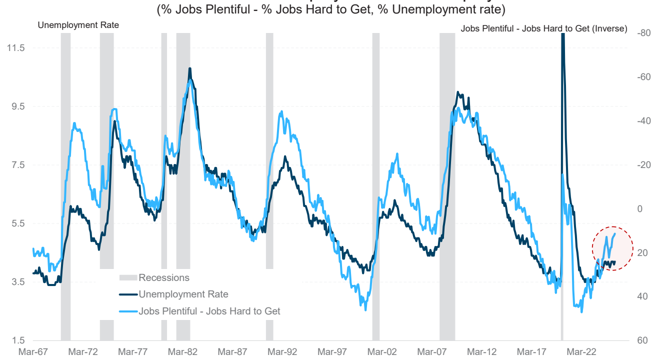
Exhibit 10
NFIB Job Openings & NFIB Hiring Plans
Job Openings In Small Business Percent With Positions Not Able to Fill Right Now & Net Percent ("Increase" Minus "Decrease") in the Next Three Months (SA)



Sources: NFIB, William Blair Equity Research

We have also seen an increase in the duration of unemployment and a reduction in the number of workers who are not on temporary layoff (i.e., on permanent layoff)—both are consistent with the flow of workers moving out of "employment" to "not in the labor market." Furthermore, even though the unemployment rate has remained relatively stable over the last few months, consumer sentiment about employment continues to deteriorate, as individuals are finding it hard to get a job (exhibit 11), which is indicative of a worsening demand situation.

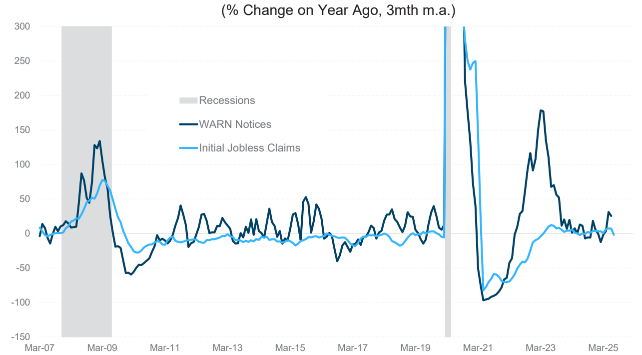
Exhibit 11
Consumer Sentiment on Employment vs. Unemployment Rate
(% Jobs Plentiful - % Jobs Hard to Get, % Unemployment rate)



Sources: Conference Board, Bureau of Labor Statistics, William Blair Equity Research

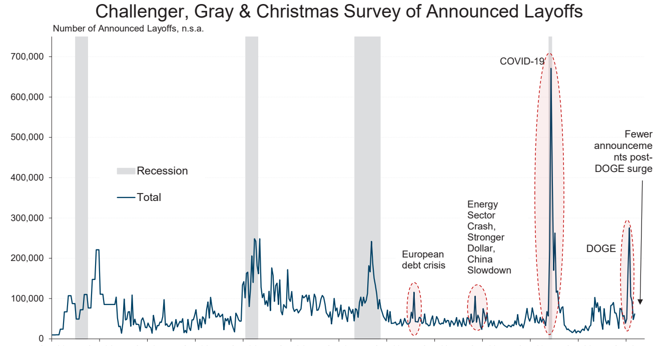
Still, as the initial jobless claims data, WARN Act notices (exhibit 12), and layoff announcement data (exhibit 13) show, companies are not engaged in mass layoffs. What is causing this demand softening are likely to be three major factors: economic uncertainty, immigration reductions, and artificial intelligence.

Exhibit 12
WARN* Act Notices & Initial Jobless Claims
(% Change on Year Ago, 3mth m.a.)



*WARN = Worker Adjustment and Retraining Notice
Sources: Federal Reserve Bank of Cleveland, Bloomberg, Department of Labor, William Blair Equity Research

Exhibit 13
Challenger, Gray & Christmas Survey of Announced Layoffs

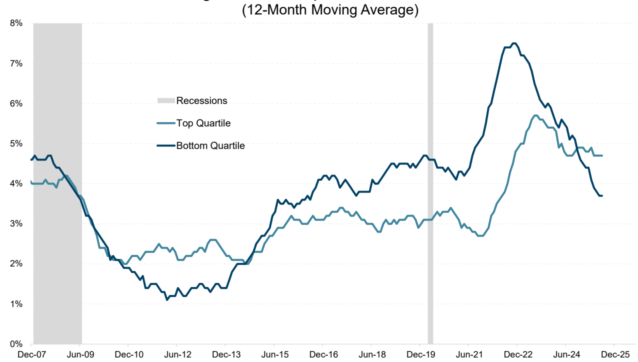


Sources: Challenger, Gray, & Christmas Inc.; William Blair Equity Research; Measures layoff announcements from US-based companies

Economic Uncertainty
First, according to comments from companies surveyed in the Beige Book, the ISM, and company reporting, there is increased uncertainty related to the ongoing shift of tariff rates and the impact those tax increases will have on consumer demand. Many companies continue to tell us they are in "wait-and-see mode."

Immigration Reductions
Second is the reduction in immigration. If there are fewer people working, there is less income and less consumption of food, clothing, shelter, transportation, etc., and therefore less need for workers to satiate that demand. This is possibly one of the reasons that companies (such as McDonald's) are reporting a reduction in demand from the lowest-income cohort. We can also see that wage rates for these workers has continued to slow, while those for workers in the upper quintile have remained firm (exhibit 14).

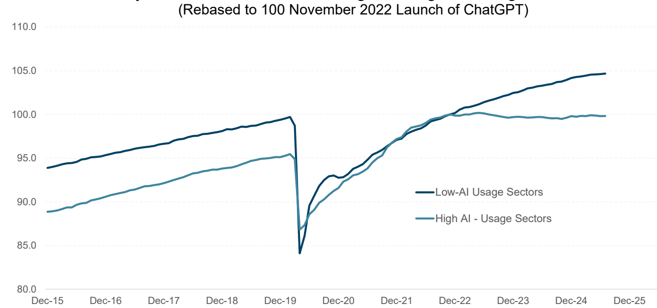
Exhibit 14
Median Wage Growth: Top vs Bottom Income Quartiles
(12-Month Moving Average)



Sources: Atlanta Fed, William Blair Equity Research

AI
The third factor is a little harder to quantify, but is the growing impact from AI. Data on adoption rates still lag—for example, according to the [Census Bureau's Business Trends and Outlook Survey,] the AI adoption rate increased from 3.7% in September 2023 to 5.4% in February 2024, and an estimated 6.6% by the fall of 2024. If we look at AI-usage rates by sector, defined by higher usage rates in the BTOS Survey (e.g., 22.3% in the information sector versus 1.9% in construction), we can see that there has been a definite break in the series following the launch of ChatGPT in November 2022 (exhibit 15). Employment growth in those sectors with higher usage has flatlined, compared to those sectors with lower usage where employment growth has continued to increase.

Exhibit 15
Payroll Growth for Low-AI Usage vs. High-AI Usage Sectors
(Rebased to 100 November 2022 Launch of ChatGPT)



Low-AI Usage Sectors: Mining & Logging, Construction, Manufacturing, Wholesale Trade, Retail Trade, Transportation and Warehousing, Utilities, Health Care, Leisure & Hospitality, Government
High-AI Usage Sectors: Information, Finance & Insurance, Real Estate, Professional & Business Services, Education Services

Sources: Census Bureau, Bureau of Labor Statistics, William Blair Equity Research

To the extent that any slowing in employment growth (or rise in unemployment) is AI-related, it might initially be classified as shorter-term frictional employment. The late 19th century economist David Frederick Schloss was the first to write about the "lump of labor fallacy." He argued that it is not the case that an economy only requires a fixed amount of labor; rather, changes in the demand for labor will naturally occur as a result of change in factors such as productivity growth. If AI, for example, brings faster productivity growth, this should ultimately increase economic wealth, which in turn will be redistributed in other forms, generating employment in other areas that may not have existed previously (e.g., helicopter pilots being replaced with drone pilots). The extent to which any AI-generated unemployment becomes structural versus frictional will then be dependent on the ability of workers to retrain to match the new demands of the economy. This would be quite different from the sharp increase in unemployment generated following the global financial market crisis.

Conclusion

Employment growth is slowing, and there is an ongoing debate at the Fed and among financial market participants as to what is causing this moderation—if it is mainly demand-side factors or supply-side.

The answer to this has important implications for monetary policy. If it is mostly supply-side factors—less immigration, for example, constraining the ability of companies to find and hire more workers—then lowering interest rates is likely to only further exacerbate the situation.

If the problem is a lack of demand for workers—because companies are worried about the impact from tariffs and geopolitics, are seeing weaker demand because of immigration, and no longer require as many workers because of a greater reliance on AI—then lower interest rates could help stabilize the economy.

In this report, we look at both sides and believe that they are not mutually exclusive. The supply of labor is very clearly coming down; to a large extent this is structural, due to demographics, but recent immigration policies are also taking a toll on employment levels for non-native workers. With slower growth in the labor force and fewer immigrants, this will have an impact on consumption growth for the aggregate economy, as there are fewer mouths to feed, clothes that need to be worn, and houses that need to be filled.

The demand for labor is also decelerating, which can be seen in the decline in the number of job openings and a rising duration of unemployment—workers are actively looking for work, but are not finding it. The rapid adoption of AI is also likely playing a role here, as suggested when looking at the relative growth in those sectors with the highest adoption rates compared to those with the lowest.

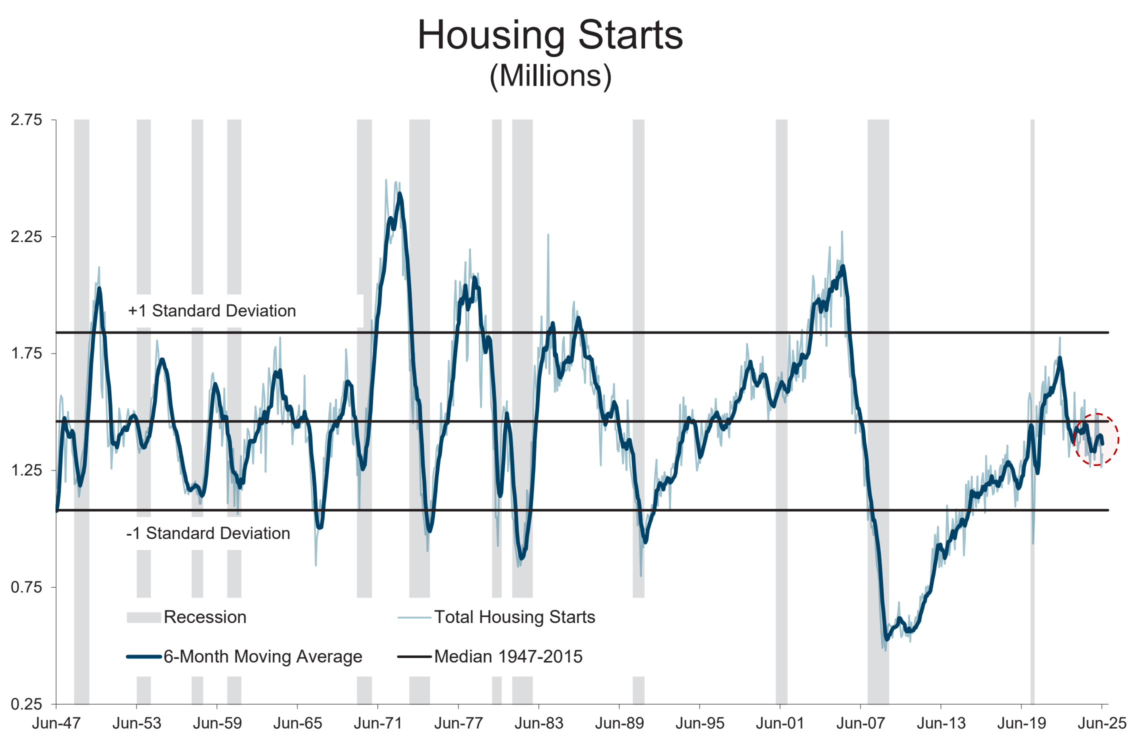
The upshot, in our view, is that we are not looking at the panic onset of a recession, with rising unemployment due to companies cutting their workforces—in fact, the data still show a reluctance to let go of workers. Nevertheless, employment growth is moderating due to a combination of supply and demand factors. Such a deceleration would be consistent with slower consumption growth and a reduced need for a restrictive monetary policy, but not much need yet for strong monetary stimulus.

Highlights in the Week Ahead

Date	Time (ET)	Indicator	Last	Consensus	WB Estimate	Actual
19 Aug	8:30 a.m.	Housing Starts (July)	4.6%	-1.7%	0.2%	
		Building Permits	-0.1%	-0.3%	0.0%	
20 Aug	2:00 p.m.	FOMC Meeting Minutes Released				
21 Aug	10:00 a.m.	Leading Economic Indicators (July)	-0.3%	0.0%	0.0%	
21 Aug	10:00 a.m.	Existing Home Sales (July)	-2.7%	-0.8%	0.1%	
21 Aug		Chair Powell Jackson Hole Speech				

Sources: Bloomberg, William Blair Equity Research

Indicator of the Week: Housing Starts



Sources: Census Bureau, William Blair Equity Research

Economic Scorecard

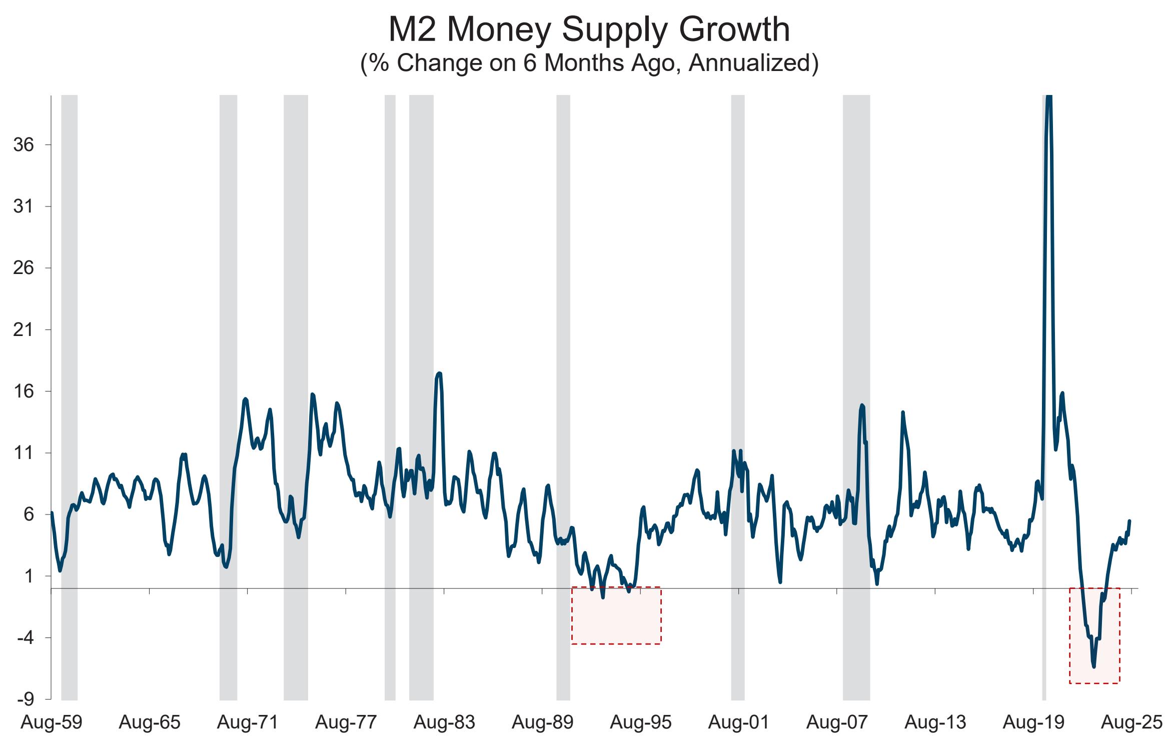
Rolling monthly heat map, % Change on Year Ago (unless otherwise noted)

	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25
Growth																			
US Leading Indicators	-6.5	-5.5	-5.4	-5.0	-4.5	-4.7	-4.6	-4.3	-3.7	-3.0	-3.0	-2.7	-3.0	-3.5	-4.3	-3.9	-4.0		
US Coincident Indicators	2.0	2.1	1.7	1.9	2.1	1.7	1.7	1.6	1.6	1.3	1.7	1.5	1.5	1.9	2.0	1.6	1.8		
US Lagging Indicators	1.2	1.2	1.4	1.2	1.1	1.0	0.8	0.3	0.1	0.0	0.1	-0.1	0.1	-0.1	0.0	0.8	0.7		
Consumer																			
Total Retail Sales	2	3.4	2.6	2.8	2.3	3	1.9	2	3.1	3.9	4.6	4.6	3.9	5.1	5	3.3	3.9		
Personal Income	5.9	5.9	5.7	5.5	5.4	5.3	5	4.8	5.2	5.1	5.2	4.3	4.6	4.7	5.4	4.6	4.7		
Real Disposable Personal Income	3.3	3.1	2.8	2.8	2.7	2.6	2.4	2.4	2.5	2.3	2.2	1.3	1.5	1.9	2.7	1.7	1.7		
Real Personal Consumption	2.1	2.7	2.4	2.8	2.9	2.9	2.9	3.2	3.1	3.1	3.1	2.9	2.5	2.8	2.9	2.2	2.1		
Personal Saving Rate (%)	5.4	5.2	5.1	4.9	4.8	4.3	4.2	3.8	4.1	3.9	3.5	4.2	4.4	4.4	5	4.5	4.5		
Consumer Confidence (Conference Board)**	104.8	103.1	97.5	101.3	97.8	101.9	105.6	99.2	109.6	112.8	109.5	105.3	100.1	93.9	85.7	98.4	95.2	97.2	
Employment																			
Employment Growth	1.4	1.5	1.5	1.4	1.3	1.3	1.2	1.3	1.2	1.3	1.3	1.3	1.2	1.1	1.1	1.0	1.0	1.0	
ASA Temporary Staffing Index	-9.4	-8.2	-9.3	-10.2	-9.9	-12.5	-12.2	-12.0	-9.5	-6.6	-21.0	-8.2	-7.5	-8.7	-6.4	-5.8	-5.3	-0.8	
ISM Employment Index Manufacturing*	46.1	47.5	48.2	50.4	48.4	43.6	45.8	44.6	44.8	48.1	45.4	50.3	47.6	44.7	46.5	46.8	45	43.4	
ISM Employment Index Services*	48	48.5	46.6	47.5	46.7	51	49.6	48.2	52.2	50.9	51.3	52.3	53.9	46.2	49	50.7	47.2	46.4	
Unemployment Rate, %	3.9	3.9	3.9	4	4.1	4.2	4.2	4.1	4.1	4.2	4.1	4	4.1	4.2	4.2	4.2	4.1	4.2	
Average Hourly Earnings	4.2	4.2	4	4.1	3.9	3.6	4	3.9	4.1	4.2	4	3.9	3.9	3.9	3.8	3.8	3.8	3.9	
Initial Jobless Claims (avg. wkly. chg. '000s)	211	216	210	222	237	237	230	225	236	219	222	218	227	223	226	235	241	221	
Jop Openings	-14.2	-15.5	-23.7	-15.1	-19.4	-12.8	-17.6	-23.5	-10.9	-7.3	-12.5	-8.3	-11.4	-11.0	-2.9	-2.4	0.3	-0.9	
Layoff Announcements	8.8	0.7	-3.3	-20.3	19.8	9.2	1	53.4	50.9	26.8	11.4	-39.5	103.2	204.8	62.7	47	-1.6	139.8	
Housing Market																			
Housing Starts	10.9	-4.7	2.3	-16.9	-6.6	-13.4	5.6	-1	-1.2	-14.5	-0.5	-1.7	-4	3.3	0.9	-4	-0.5		
New Home Sales	3.5	6.3	8.1	-10	-0.4	1.1	7.4	5.3	-8.8	10.7	11.7	-2.8	-2.4	-4.6	-1.9	-6.3	-6.6		
Existing Home Sales	-3.4	-3.3	-2.6	-3.1	-5.1	-2.5	-3.7	-3.0	3.1	6.7	9.7	2.3	-0.9	-2.4	-2.0	-0.5	0.0		
Median House Price (Existing Homes)	-2.9	-0.6	-0.5	-1.6	-0.9	-1.6	-8	-1.2	2.1	-7.4	1.1	-0.2	-1.4	-5.4	-0.5	2	-2.9		
Existing Homes Inventory (Mths' supply)	3.3	3.5	3.5	3.5	3.8	3.7	3.9	4	3.9	3.8	3.7	3.9	3.8	4.2	4.3	4.3	4.4		
New Homes Inventory (Mths' supply)	8.4	8.1	7.7	8.5	8.4	7.9	8.2	7.9	9.3	8.7	8.2	9	9.3	9.2	8.5	9.7	9.8		
NAHB Homebuilder Sentiment*	48	51	51	45	43	41	39	41	43	46	46	47	42	39	40	34	32	33	
Inflation																			
Consumer Price Index	3.2	3.5	3.4	3.3	3	2.9	2.5	2.4	2.6	2.7	2.9	3	2.8	2.4	2.3	2.4	2.7	2.7	
CPI Less-food & energy	3.8	3.8	3.6	3.4	3.3	3.2	3.2	3.3	3.3	3.3	3.2	3.3	3.1	2.8	2.8	2.8	2.9	3.1	
Producer Price Index	1.6	2	2.3	2.5	2.9	2.4	2.1	2.1	2.8	2.9	3.5	3.8	3.4	3.2	2.4	2.7	2.4	3.3	
PPI Less-food & energy	2.1	2.3	2.5	2.7	3.3	2.6	2.8	3.3	3.6	3.4	3.7	3.9	3.7	3.8	3.1	3.2	2.6	3.7	
PCE Price Index	2.6	2.8	2.7	2.6	2.4	2.5	2.3	2.1	2.3	2.5	2.6	2.6	2.7	2.3	2.2	2.4	2.6	2.6	
PCE Prices Less-food & energy	2.9	3.0	2.9	2.7	2.6	2.7	2.7	2.7	2.8	2.8	2.9	2.7	2.9	2.7	2.6	2.8	2.8	2.8	
Business Activity - US																			
Industrial Production	-0.1	-0.3	-0.8	0.0	0.9	-0.5	-0.1	-0.7	-0.4	-0.9	0.4	1.4	1.2	1.1	1.3	0.7	0.7		
New Cap Gds Orders less-aircraft & parts	2.2	-1.5	2.1	-2.8	-4	-0.6	-1.8	0.5	0.2	-1.1	1.9	3.3	-0.9	2.2	0.5	2.2	4.6		
Business Inventories	-0.1	-0.2	0.3	0.2	0.6	1.2	1.5	2.1	2.1	1.9	2.2	2.6	1.9	2.5	2.3	2.5	2.2	1.7	
ISM Manufacturing PMI*	47.6	49.8	48.8	48.5	48.3	47	47.5	47.5	46.9	48.4	49.2	50.9	50.3	49	48.7	48.5	49	48	
Markit US Manufacturing PMI*	52.2	51.9	50	51.3	51.6	49.6	47.9	47.3	48.5	49.7	49.4	51.2	52.7	50.2	50.2	52	52.9	49.8	
ISM Services Index*	52.2	51.3	49.6	53.5	49.2	51.4	51.6	54.5	55.8	52.5	54	52.8	53.5	50.8	51.6	49.9	50.8	50.1	
Markit US Services PMI*	52.3	51.7	51.3	54.8	55.3	55	55.7	55.2	55	56.1	56.8	52.9	51	54.4	50.8	53.7	52.9	55.7	
Business Activity - International																			
Germany Manufacturing PMI Markit/BME*	42.5	41.9	42.5	45.4	43.5	43.2	42.4	40.6	43	43	42.5	45	46.5	48.3	48.4	48.3	49	49.1	
Japan Manufacturing PMI Jibun Bank*	47.2	48.2	49.6	50.4	50	49.1	49.8	49.7	49.2	49	49.6	48.7	49	48.4	48.7	49.4	50.1	48.9	
Caixin China Manufacturing PMI*	50.9	51.1	51.4	51.7	51.8	49.8	50.4	49.3	50.3	51.5	50.5	50.1	50.8	51.2	50.4	48.3	50.4	49.5	
China Manufacturing PMI*	49.1	50.8	50.4	49.5	49.5	49.4	49.1	49.8	50.1	50.3	50.1	49.1	50.2	50.5	49	49.5	49.7	49.3	
UK Manufacturing PMI Markit/CIPS*	47.5	50.3	49.1	51.2	50.9	52.1	52.5	51.5	49.9	48	47	48.3	46.9	44.9	45.4	46.4	47.7	48	
France Manufacturing PMI Markit*	47.1	46.2	45.3	46.4	45.4	44	43.9	44.6	44.5	43.1	41.9	45	45.8	48.5	48.7	49.8	48.1	48.2	
Currencies* **																			
Euro (EUR/USD)	2.2	-0.5	-3.2	1.5	-1.8	-1.6	1.9	5.3	2.9	-2.9	-6.2	-4.2	-4.0	0.2	6.2	4.6	10.0	5.4	
Renmimbi (USD/CNY)	3.6	5.1	4.7	1.9	0.2	1.2	-2.3	-3.8	-2.7	1.6	2.8	1.1	1.2	0.5	0.4	-0.6	-1.4	-0.4	
Yen (USD/Yen)	10.1	13.9	15.8	12.9	11.5	5.4	0.4	-3.8	0.2	1.1	11.5	5.6	0.4	-0.9	-9.3	-8.4	-10.5	0.5	
Sterling (GBP/USD)	5.0	2.3	-0.6	2.4	-0.5	0.2	3.6	9.6	6.1	0.9	-1.7	-2.3	-0.4	2.3	6.7	5.6	8.6	2.7	
Canadian $ (USD/CAD)	-0.5	0.2	1.7	0.4	3.3	4.7	-0.1	-0.4	0.4	3.3	8.6	8.2	6.5	6.3	0.2	0.8	-0.5	0.3	
Mexican Peso (USD/MXN)	-6.8	-8.2	-4.8	-3.8	7.0	11.2	15.8	13.0	11.0	17.2	22.7	20.1	20.5	23.6	14.4	14.3	2.3	1.4	
US Equities																			
S&P 500	28.4	27.9	20.8	26.3	22.7	20.3	25.3	34.4	36.0	32.1	23.3	24.7	16.8	6.8	10.6	12.0	13.6	14.8	
S&P 400 Midcap	11.1	21.3	14.9	23.9	11.7	13.5	16.9	24.8	30.9	31.3	12.2	18.6	7.1	-4.2	-0.3	0.6	5.9	1.7	
S&P 600 Smallcap	4.5	13.8	10.4	18.1	6.6	12.0	15.1	23.5	27.6	30.9	6.8	14.5	4.5	-5.0	-3.6	-3.4	2.8	-6.3	
Russell 2000	8.3	17.9	11.6	18.3	8.4	12.5	16.7	24.9	32.1	34.6	10.0	17.5	5.3	-5.3	-0.5	-0.2	6.2	-1.9	

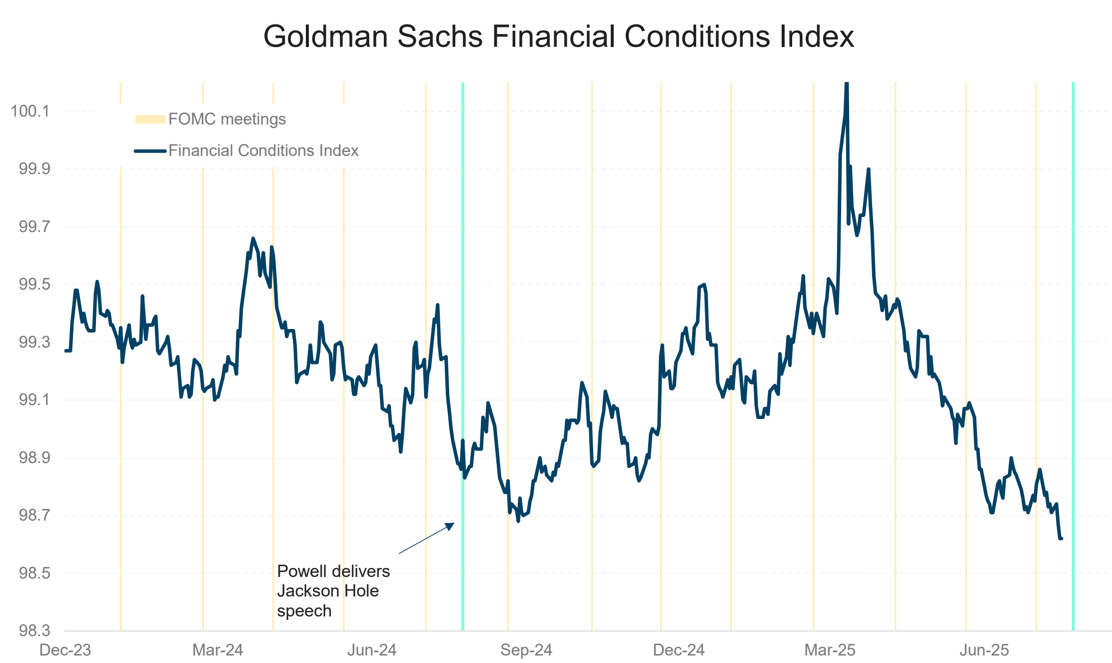
* Diffusion Index, **1985=100, ***Currencies - green/red = strengthening/weakening foreign currency vs dollar

Source: ISM, Federal Reserve, Census Bureau, Bureau of Labor Statistics, Conference Board, Bloomberg, William Blair

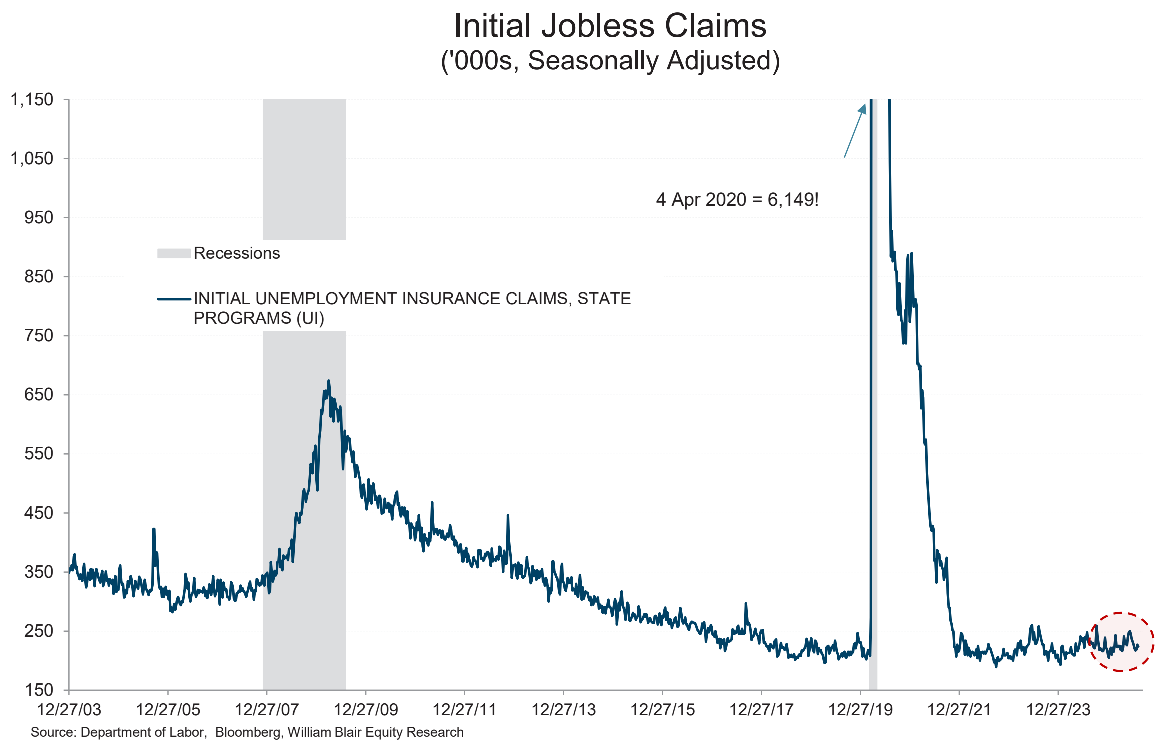
Other Economic Indicators

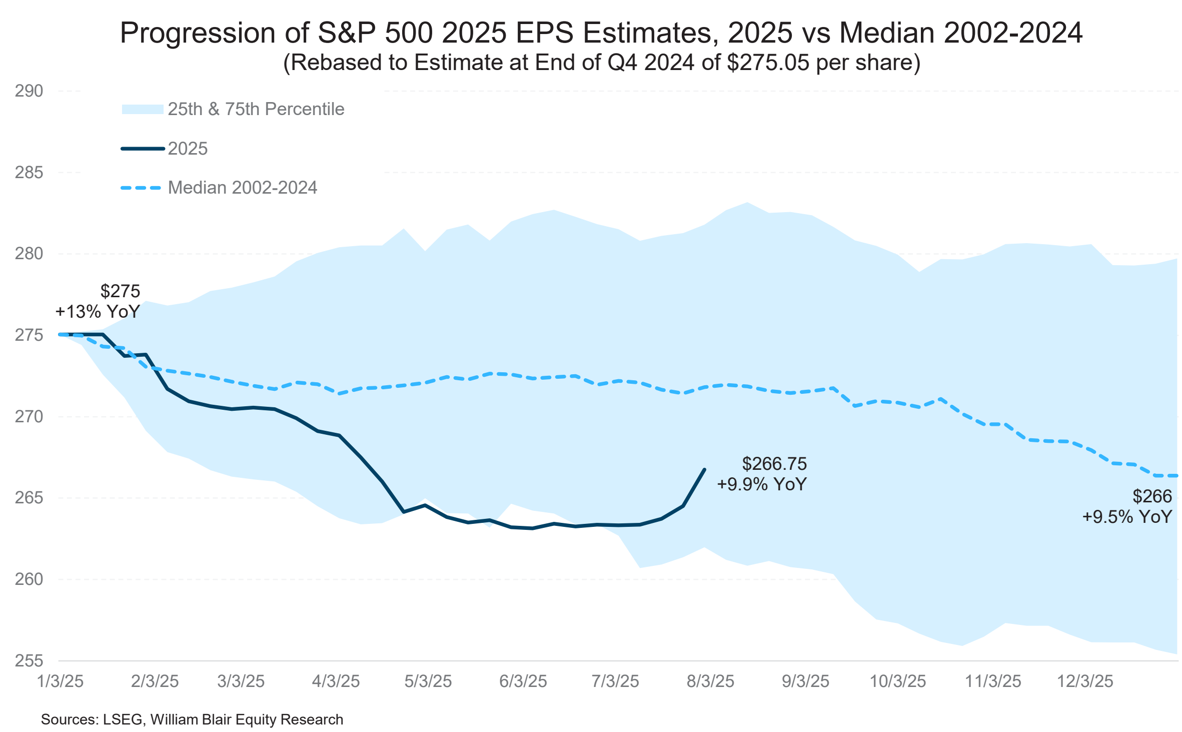


Sources: Federal Reserve, William Blair Equity Research

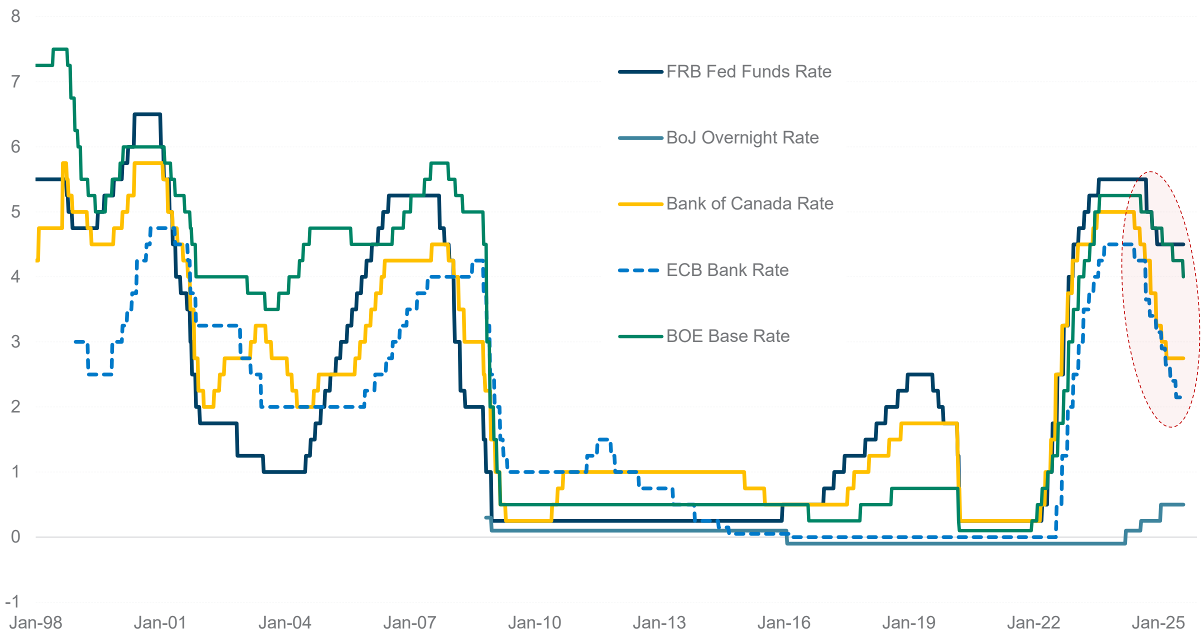


Sources: Bloomberg, William Blair Equity Research


Initial Jobless Claims
('000s, Seasonally Adjusted)
4 Apr 2020 = 6,149!
Recessions
INITIAL UNEMPLOYMENT INSURANCE CLAIMS, STATE PROGRAMS (UI)
1,150
1,050
950
850
750
650
550
450
350
250
150
12/27/03
12/27/05
12/27/07
12/27/09
12/27/11
12/27/13
12/27/15
12/27/17
12/27/19
12/27/21
12/27/23
Source: Department of Labor, Bloomberg, William Blair Equity Research

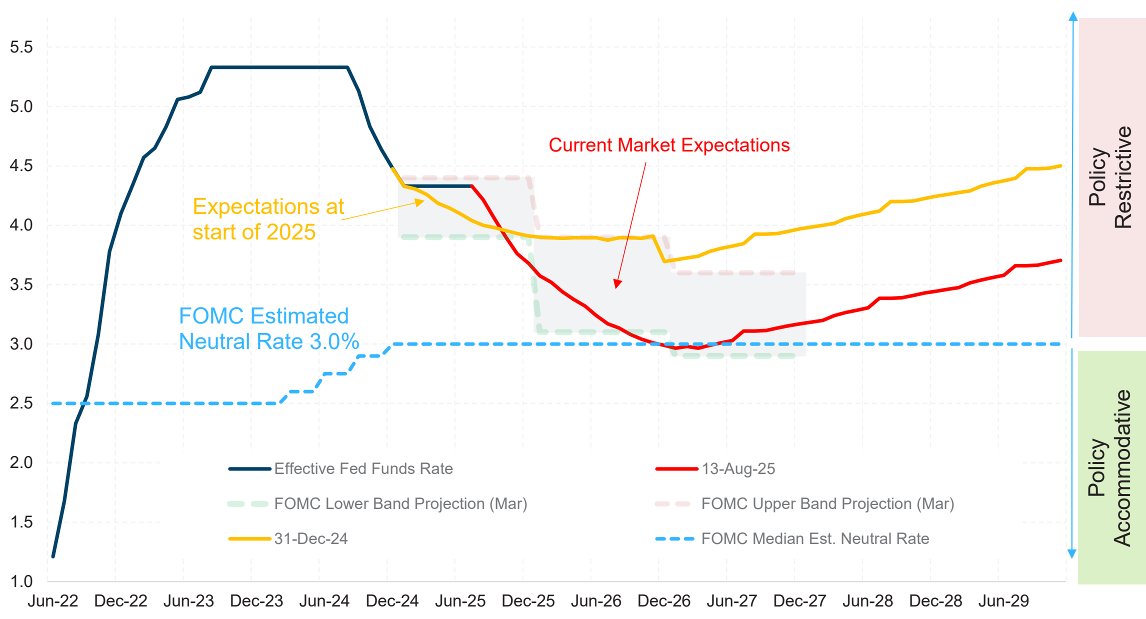

Progression of S&P 500 2025 EPS Estimates, 2025 vs Median 2002-2024
(Rebased to Estimate at End of Q4 2024 of $275.05 per share)
25th & 75th Percentile
2025
Median 2002-2024
$275
+13% YoY
$266.75
+9.9% YoY
$266
+9.5% YoY
290
285
280
275
270
265
260
255
1/3/25
2/3/25
3/3/25
4/3/25
5/3/25
6/3/25
7/3/25
8/3/25
9/3/25
10/3/25
11/3/25
12/3/25
Sources: LSEG, William Blair Equity Research

Central Bank Target Short-Term Interest Rates, %



Sources: Bloomberg, William Blair Equity Research

Fed Funds Rate Futures Market Expectations & FOMC Projections, %



Sources: Bloomberg, William Blair Equity Research

S&P 500 Sector Performance

Global Industry Classification System	Current Weight* 14-Aug-25	Week Ago 07-Aug-25	Month Ago 14-Jul-25	Qtr-to-Date 30-Jun-25	Year-to-Date 31-Dec-24
S&P 500 Index	**100.00**	**2.03**	**3.19**	**4.25**	**9.98**
S&P 400 MidCap Index		**2.13**	**0.26**	**2.84**	**2.25**
S&P 600 SmallCap Index		**4.10**	**1.75**	**5.27**	**-0.30**
Dow Jones Industrials		**2.14**	**1.02**	**1.85**	**5.56**
Nasdaq Composite		**2.20**	**5.19**	**6.58**	**12.43**
Communication Services	**10.36**	**2.86**	**6.66**	**5.64**	**16.86**
Advertising	0.08	-25.30	-22.58	-21.80	-33.50
Broadcasting	0.07	13.10	5.89	5.90	23.78
Cable & Satellite	0.28	3.51	-13.59	-14.13	-14.42
Integrated Telecommunication Services	0.69	1.91	5.27	-0.10	17.39
Interactive Home Entertainment	0.16	6.41	8.05	3.56	23.91
Interactive Media & Services	7.10	3.02	10.25	10.87	17.42
Movies & Entertainment	1.45	4.11	-2.12	-6.68	25.88
Publishing & Printing	0.03	2.79	0.06	0.27	9.40
Wireless Telecommunication Svcs	0.50	3.04	9.71	5.06	13.40
Consumer Discretionary	**11.10**	**2.97**	**3.27**	**5.56**	**1.10**
Apparel Retail	0.35	0.93	8.73	9.49	6.65
Apparel & Accessories & Luxury Goods	0.10	-3.50	-8.43	-4.34	-18.28
Auto Parts & Equipment	0.03	12.90	5.40	8.90	17.76
Automobile Manufacturers	2.10	4.13	5.44	6.06	-14.72
Automobile Retail	0.29	-1.44	6.40	8.72	21.55
Broadline Retail	4.46	3.57	2.75	5.72	6.03
Casinos & Gaming	0.11	3.45	-0.29	13.78	4.94
Computer & Electronics Retail	0.03	6.20	1.11	6.87	-16.39
Consumer Electronics	0.08	2.66	8.12	12.62	13.96
Distributors	0.07	4.36	2.68	5.83	2.61
Footwear	0.19	2.62	5.71	6.47	-11.78
Home Furnishings	0.01	6.99	14.89	22.93	8.18
Home Improvement Retail	0.96	4.29	9.58	10.42	2.81
Homebuilding	0.23	6.78	15.36	20.45	11.11
Hotels, Resorts & Cruise Lines	0.93	2.35	-4.54	-1.03	9.70
Leisure Products	0.02	4.14	6.28	9.11	44.06
Restaurants	1.00	-0.54	-1.92	-0.96	3.80
Other Specialty Retail	0.10	1.33	5.68	12.84	15.94
Consumer Staples	**5.97**	**-0.48**	**0.95**	**0.21**	**5.31**
Agricultural Products	0.08	1.58	9.31	9.37	13.89
Brewers	0.02	3.50	3.56	6.53	-10.62
Distillers & Vintners	0.07	-2.22	3.66	5.51	-22.82
Drug Retail	0.02	1.18	4.61	4.88	29.05
Food Distributors	0.07	1.03	4.50	7.21	6.20
Food Retail	0.08	-6.14	-4.21	-3.49	13.21
Household Products	0.91	-0.22	-0.64	-3.28	-8.08
Packaged Foods & Meats	0.50	-0.86	-1.97	-2.01	-6.15
Personal Products	0.11	-2.76	-2.35	3.87	4.87
Soft Drinks	1.09	1.15	4.29	3.92	6.59
Tobacco	0.65	-0.31	-3.06	-3.82	33.44
Energy	**2.90**	**1.37**	**-3.21**	**0.71**	**-0.24**
Integrated Oil & Gas	1.46	1.39	-2.80	2.86	1.90
Oil & Gas Equipment & Services	0.20	1.24	-1.47	4.56	-8.67
Oil & Gas Exploration & Production	0.62	2.38	-2.06	0.73	-1.92
Oil & Gas Refining & Marketing & Transportation	0.25	1.90	-7.01	0.47	11.57
Oil & Gas Storage & Transportation	0.38	-0.59	-4.95	-7.98	-7.13

Financials	**13.47**	**3.23**	**0.80**	**1.06**	**9.54**
Asset Management & Custody Banks	1.18	3.42	4.78	10.44	8.73
Consumer Finance	0.68	5.50	-1.85	0.42	12.68
Diversified Banks	3.18	3.73	1.10	2.28	16.80
Financial Exchanges & Data	1.22	0.09	-0.35	1.08	14.51
Insurance Brokers	0.57	1.34	-2.77	-3.84	0.24
Investment Banking & Brokerage	1.20	3.60	4.39	6.05	25.51
Life & Health Insurance	0.31	4.09	1.67	-0.50	-1.86
Multi-Sector Holdings	1.17	3.85	0.61	-1.35	5.72
Property & Casualty Insurance	1.04	2.52	2.24	-2.03	5.77
Regional Banks	0.28	5.39	-0.62	4.49	5.62
Reinsurance	0.03	2.73	-1.15	-0.80	-6.99
Transaction & Payment Processing	2.46	3.53	-0.84	-2.35	2.09
Health Care	**8.95**	**3.85**	**-0.98**	**-0.83**	**-2.82**
Biotechnology	1.55	3.70	0.87	5.33	9.22
Health Care Distributors	0.33	2.08	-4.62	-6.81	22.22
Health Care Equipment	2.08	0.88	0.02	-1.93	7.18
Health Care Facilities	0.18	5.48	2.64	2.20	26.02
Health Care Services	0.38	5.44	1.03	-5.96	21.32
Health Care Supplies	0.07	3.91	-10.37	-8.17	-17.20
Life Sciences Tools & Services	0.87	5.88	8.61	10.52	-9.04
Managed Health Care	0.65	9.22	-8.67	-16.80	-40.34
Pharmaceuticals	2.84	4.32	-3.21	-0.27	-4.56
Industrials	**8.41**	**0.29**	**0.01**	**2.37**	**14.62**
Aerospace & Defense	2.18	-0.78	0.83	3.80	31.07
Agricultural & Farm Machinery	0.23	-5.49	-5.67	-5.83	13.01
Air Freight & Logistics	0.27	2.52	-3.72	-2.95	-19.35
Building Products	0.52	0.88	-2.61	-0.09	12.12
Cargo Ground Transportation	0.08	3.67	-7.78	-4.86	-14.64
Construction & Engineering	0.10	-2.54	-2.45	-0.15	19.45
Construction Machinery & Heavy Trucks	0.60	1.51	3.90	7.56	10.32
Data Processing & Outsourced Services	0.05	-2.72	9.83	6.67	14.66
Diversified Support Svcs	0.24	-0.03	1.12	-2.06	3.56
Electrical Components & Equipment	0.59	0.77	0.30	2.26	8.71
Environmental & Facilities Services	0.39	-1.98	-0.97	-1.08	12.97
Heavy Electrical Equipment	0.30	-3.19	12.65	18.17	90.09
Human Resource & Employment Services	0.34	-1.30	-1.80	-3.31	0.14
Industrial Conglomerates	0.39	1.67	-5.65	-3.05	4.61
Industrial Machinery	0.68	2.43	-0.77	1.96	2.23
Passenger Airlines	0.15	9.65	-0.12	15.36	-2.01
Passenger Ground Transportation	0.34	-1.38	-2.66	-2.04	51.52
Railroads	0.47	0.70	0.70	3.06	5.81
Research & Consulting Svcs	0.19	1.66	-3.10	-2.54	4.19
Trading Companies & Distributors	0.29	4.72	5.22	11.03	18.91
Information Technology	**34.03**	**1.84**	**6.58**	**8.04**	**16.36**
Application Software	2.63	-2.02	2.15	1.56	8.69
Communications Equipment	0.96	-0.48	9.47	9.22	16.05
Electronic Components	0.34	1.89	13.86	15.41	53.07
Electronic Equipment & Instruments	0.16	1.17	1.70	5.01	5.11
Electronic Manufacturing Services	0.15	2.12	11.59	15.36	46.53
Internet Software & Services	0.10	-2.92	-9.30	-12.72	-9.92
IT Consulting & Services	0.78	-1.82	-15.17	-19.28	-14.97
Semiconductor Equipment	0.77	5.10	1.99	6.68	30.14
Semiconductors	12.61	2.16	10.10	13.04	32.40
Systems Software	8.98	0.14	2.32	2.90	21.52
Technology Distributors	0.04	2.60	-6.53	-7.00	-4.56
Technology Hardware, Storage & Peripherals	6.51	5.67	11.23	13.11	-5.87
Materials	**1.84**	**2.33**	**0.00**	**2.90**	**8.01**
Commodity Chemicals	0.06	7.28	-16.46	-10.03	-36.29
Construction Materials	0.13	2.98	8.51	11.98	16.18
Copper	0.11	3.63	-7.34	-2.47	11.03
Fertilizers & Agricultural Chemicals	0.13	1.50	-5.27	-5.55	18.61

Gold	0.13	-0.85	12.60	17.54	83.99
Industrial Gases	0.51	1.64	1.57	2.20	10.83
Metal & Glass Containers	0.03	-0.74	-7.84	-4.37	-2.70
Paper Packaging	0.18	-1.45	-6.12	0.71	-12.62
Specialty Chemicals	0.46	4.68	1.53	3.69	2.14
Steel	0.09	4.65	-0.30	7.03	19.29
Real Estate	**1.94**	**-1.34**	**-2.01**	**-1.08**	**0.62**
Data Center REITs	0.24	-1.52	-0.01	-3.41	-13.41
Health Care REITs	0.29	-3.34	1.02	4.75	14.95
Hotel & Resort REITs	0.02	4.65	-3.15	4.04	-8.79
Industrial REITs	0.17	-0.42	-3.20	0.69	0.14
Multi-Family Residential REITs	0.00	-0.57	-6.86	-6.80	-11.42
Office REITs	0.02	-0.73	-8.45	-3.35	-12.30
Other Specialized REITs	0.11	-0.89	-4.65	-5.08	-0.72
Real Estate Service	0.15	-2.20	7.90	11.46	21.63
Retail REITs	0.26	1.70	1.42	2.73	0.32
Self-Storage REITs	0.14	-1.11	-5.36	-5.50	-7.19
Single-Family Residential REITs	0.14	-1.11	-5.36	-5.50	-7.19
Telecom Tower REITs	0.29	-3.56	-6.44	-6.28	10.36
Timber REITs	0.03	2.29	1.59	2.38	-6.57
Utilities	**2.35**	**-0.91**	**3.54**	**4.90**	**13.03**
Electric Utilities	1.51	-0.87	2.84	4.54	12.36
Gas Utilities	0.05	2.09	6.90	7.80	19.29
Independent Power Producers & Energy Traders	0.14	-1.31	3.75	6.31	39.23
Water Utilities	0.05	-0.70	0.04	3.09	15.20
Multi-Utilities	0.61	-1.13	5.30	5.39	9.33

*Current Weight is market cap based, based on calculations by William Blair Intl. Ltd.

IMPORTANT DISCLOSURES

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DOW JONES: 43975.10
S&P 500: 6373.45
NASDAQ: 21385.40

Additional information is available upon request.

Current Rating Distribution (as of August 12, 2025):

Coverage Universe	Percent	Inv. Banking Relationships *	Percent
Outperform (Buy)	72	Outperform (Buy)	10
Market Perform (Hold)	28	Market Perform (Hold)	2
Underperform (Sell)	1	Underperform (Sell)	0

*Percentage of companies in each rating category that are investment banking clients, defined as companies for which William Blair has received compensation for investment banking services within the past 12 months.

The compensation of the research analyst is based on a variety of factors, including performance of his or her stock recommendations; contributions to all of the firm's departments, including asset management, corporate finance, institutional sales, and retail brokerage; firm profitability; and competitive factors.

OTHER IMPORTANT DISCLOSURES

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