WELLS FARGO

Weekly — December 23, 2022

Weekly Economic & Financial Commentary

United States: **Naughty & Nice: Mixed Data to End 2022**

- This week's data showed that the U.S. economy is ending the year on a mixed note. The housing market generally showed further signs of deterioration in November, and data on durable goods orders were generally weaker than expected, when backward revisions to previously released data are taken into account. That said, data on consumer confidence shows that consumers are less downbeat at present than they were a few months ago.
- Next week: S&P Case-Shiller Home Price Index (12/27), ISM Manufacturing (1/4), Nonfarm Payrolls (1/6)

International: **Bank of Japan Tweaks Its Accommodative Monetary Policy Stance**

- In a surprise move, the Bank of Japan (BoJ) tweaked its yield curve control policy at its December monetary policy meeting, widening the tolerance band for its 10-year Japanese government bond (JGB) yield to +/- 50 bps, around a 0% target. The BoJ emphasized that the change in policy was not a form of monetary tightening, but was designed to enhance the sustainability of its current monetary policy. While the policy tweak has added uncertainty to the BoJ outlook, we continue to lean toward BoJ policymakers making no further policy adjustments through the end of 2023.
- Next week: Japan Retail Sales/Industrial Output (12/27, 12/28), Swiss KOF Leading Indicator (12/30), China PMIs (12/31)

Credit Market Insights: **Not All Rate Hikes Are Created Equally**

- How quickly rate hikes are transmitted through the economy depends not only on how high policy rates are lifted, but also structural elements of an economy. Generally, a higher level of household debt, higher interest servicing costs, as well as a larger proportion of variable rate mortgages to fixed rate mortgages tends to indicate more sensitivity to rate hikes.

Topic of the Week: **Population Growth Picks Up Slightly in 2022**

- One negative knock-on effect of the pandemic was a considerable slowdown in population growth. Fortunately, the trend appears to be reversing somewhat. According to the Census Bureau, U.S. population growth picked up 0.4% between July 2021 and July 2022, still slow by historical standards, but an improvement from the record-low 0.2% rate from the year-earlier period.

Wells Fargo U.S. Economic Forecast

	Actual			Forecast					Actual	Forecast		
	2022				2023				2021	2022	2023	2024
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Real Gross Domestic Product [1]	-1.6	-0.6	3.2	1.5	0.6	0.0	-3.1	-2.9	5.9	2.0	0.2	0.0
Personal Consumption	1.3	2.0	2.3	3.5	1.1	0.5	-1.6	-2.4	8.3	2.8	1.0	-0.3
Consumer Price Index [2]	8.0	8.6	8.3	7.3	5.7	3.8	3.0	2.7	4.7	8.0	3.8	2.5
"Core" Consumer Price Index [2]	6.3	6.0	6.3	6.1	5.5	4.6	3.8	3.3	3.6	6.2	4.3	2.8
Quarter-End Interest Rates [3]												
Federal Funds Target Rate	0.50	1.75	3.25	4.50	5.25	5.25	5.25	5.25	0.25	2.50	5.25	3.25
Conventional Mortgage Rate	4.27	5.58	6.01	6.60	6.75	6.50	6.05	5.65	3.03	5.61	6.24	5.09
10 Year Note	2.32	2.98	3.83	3.80	4.00	3.90	3.55	3.25	1.45	3.23	3.68	2.94

Forecast as of: December 08, 2022
[1] Compound Annual Growth Rate Quarter-over-Quarter [2] Year-over-Year Percentage Change [3] Annual Numbers Represent Average

Source: U.S. Dept. of Commerce, U.S. Dept. of Labor, Federal Reserve Board and Wells Fargo Economics

Please see our full U.S. Economic Forecast and our updated Pressure Gauge.

Please note that we will not publish a *Weekly Economic & Financial Commentary* report next Friday, December 30. We will resume publication of this report on Friday, January 6. Happy holidays!

U.S. Review

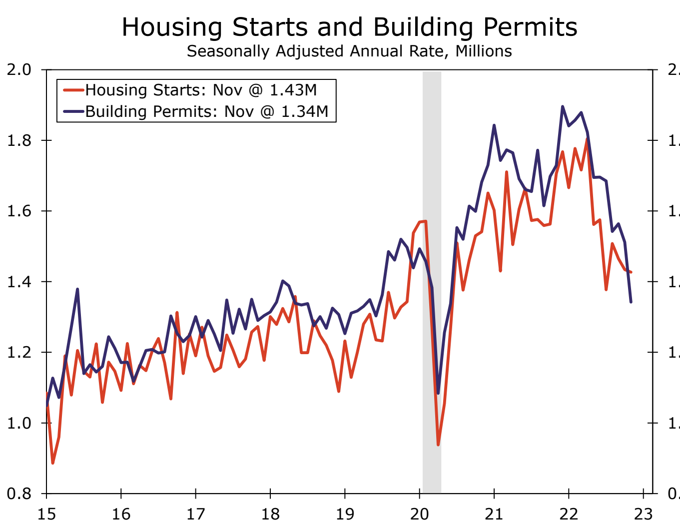
Naughty & Nice: Mixed Data to End 2022

As 2022 comes to a close, data that were released this week portrayed a mixed picture of the U.S. economy. Let's start with the bad news. The housing market, which has been weakening since midyear due to the sharp rise in interest rates, generally showed further signs of deterioration. Although housing starts edged down only 0.5% in November relative to the previous month, which was not as much as the consensus forecast had anticipated, building permits, which are an indicator of future activity, plunged 11.2% (chart). Since peaking last December, building permits have dropped by 29%, suggesting that housing starts, which are down by 21% since April, have further to fall. This expectation seems to be shared by home builders as the NAHB index declined for the 12th consecutive month in December. The NAHB index, which measures sentiment among builders, has essentially retreated to its recent low in April 2020 when the economy was more or less in free fall.

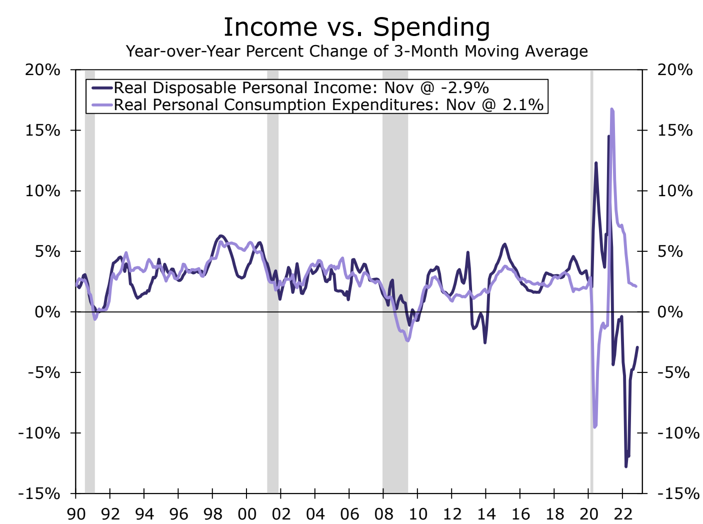
Sales activity in the housing market also remains weak. Existing home sales fell 7.7% in November relative to the previous month, bringing their total slide since January to 37%. The current annualized rate of existing home sales (4.09 million units) has not been this low since May 2020. However, new home sales bucked the trend in November, rising 5.8% from October's downwardly revised annualized rate of 605K. That said, the number of new home sales in November was 23% below the selling rate at the start of 2022. In short, new home sales trended considerably lower over the course of the year.

Fresh data on the manufacturing sector also point to a weakening economy. Not only did new orders for durable goods decline 2.1% in November, but orders were downwardly revised in October as well. Total orders were admittedly held back by a large slump in non-defense aircraft orders specifically, but when we exclude transportation, orders *rose* 0.2%, or by the most in four months. Still, orders were generally weaker than expected through November when backward revisions are taken into account.

Despite a weakening demand profile, the durables goods data suggest a decent outturn for fourth quarter equipment spending. Non-defense capital goods *shipments*, which feed directly into the BEA's calculation of equipment spending in the GDP accounts, rose 0.8% in November. In adjusting the three-month annualized rate of shipments for producer prices of private equipment, real equipment spending is tracking around a 9% annualized pace in Q4. But conditions for capex investment are becoming less favorable looking into 2023. The weakening demand backdrop amid the continued pullback in order backlog suggests fewer orders in the pipeline going forward.



Source: U.S. Department of Commerce and Wells Fargo Economics



Source: U.S. Department of Commerce and Wells Fargo Economics

But not all of the week's data were downbeat as the Conference Board's index of consumer confidence rose from 101.4 in November to 108.3 in December, which was stronger than most analysts had expected. Meanwhile, revised data on consumer sentiment from the University of Michigan's index showed a larger gain in sentiment than previously reported, lifting the index to 59.7 for December. Notably, consumer inflation expectations declined, and at 4.4%, consumers now expect the lowest annual rate of inflation over the next year in a year and a half, a development that will be welcome news to monetary policymakers focused on getting inflation back to target.

These increases in measures of consumer confidence are consistent with personal income and spending data, which showed that nominal income rose 0.4% in November relative to the previous month. Not only was this increase in November stronger than the consensus expectation of a 0.3% gain, but it comes on the heels of the 0.7% rise that was registered in October. That said, growth in real income has not kept pace with the sharp rise in consumer prices over the past year (chart). On a year-over-year basis, real disposable personal income was down 2.5% in November, and this weakness in real income may be starting to weigh on growth in consumer spending. In that regard, real consumer spending was flat in November, which follows three consecutive monthly increases that averaged 0.4% per month. The personal saving rate ticked higher in November, but at 2.4% it remains near an all-time low.

In sum, this week's data are consistent with our views that the U.S. economy has continued to expand in the fourth quarter, albeit it at a slower pace than the 3.2% annualized growth rate that was registered in Q3. (The third estimate of Q3 GDP growth, which was released this week, was revised up from the second estimate of 2.9% growth.) We currently project that real GDP will grow about 1.5% in Q4-2022. But as we discussed in greater detail in our Annual Economic Outlook, we continue to look for the economy to contract modestly beginning in mid-2023 due to the high rate of inflation, which has eroded real income, and the lagged effects of monetary tightening.

(Return to Summary)

U.S. Outlook

Weekly Domestic Indicator Forecasts

Date	Indicator	Period	Consensus	Wells Fargo	Prior
4-Jan	ISM Manufacturing Index	Dec	48.5	48.9	49.0
6-Jan	Nonfarm Payrolls	Dec	210K	205K	263K
6-Jan	Unemployment Rate	Dec	3.7%	3.7%	3.7%
6-Jan	Average Hourly Earnings (MoM)	Dec	0.4%	0.4%	0.6%
6-Jan	ISM Services Index	Dec	55.0	55.1	56.5

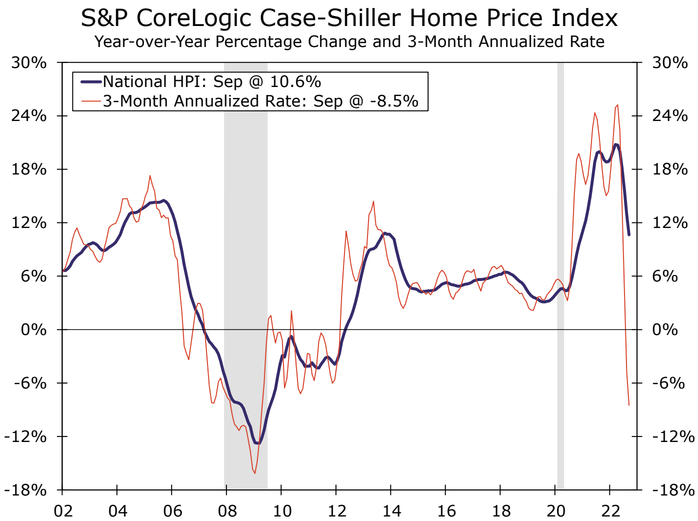
Forecast as of December 23, 2022

Source: Bloomberg Finance L.P. and Wells Fargo Economics

S&P Case-Shiller Home Price Index • Tuesday (12/27)

Home prices surged from the start of the pandemic through the summer of 2022. From February 2020 through June 2022, the S&P CoreLogic Case-Shiller National Home Price Index surged 44%. More recent, however, home price growth has turned negative. Home prices declined 2.2% from July through September, according to the Case-Shiller HPI. This decline, while modest when compared to the run-up in prices during the pandemic, offers concrete evidence that home price growth has slowed and even turned negative in parts of the country amid higher mortgage rates and a cooling economy.

Next week's release will bring updated data on home prices in October, and another monthly decline appears likely. Some of the biggest contractions have occurred in western housing markets, such as San Francisco, Seattle, Phoenix and Denver. As we look toward 2023, we think home prices will continue to slide amid elevated mortgage rates and our expectation for a mild recession. We look for the national median existing single-family home price to fall roughly 5% in 2023.

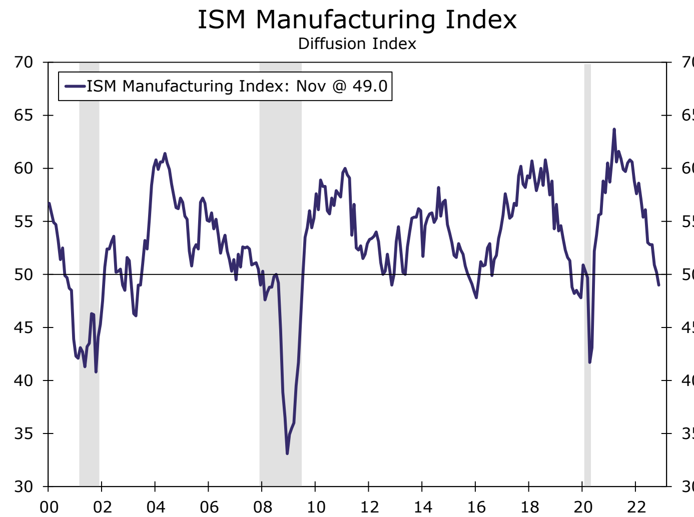


Source: S&P CoreLogic and Wells Fargo Economics

ISM Manufacturing Index • Wednesday (1/4)

The ISM manufacturing index declined below the key 50 level in November. A reading of 50 is the demarcation line between expansion and contraction, and the index for November came in at 49.0. The first sub-50 reading since May 2020 reflects the manufacturing sector catching up with orders and supply chain strains easing. However, the better balance has been induced in part by deteriorating demand. New orders contracted for the fifth time in six months, and manufacturers are reducing headcount.

The good news is that the weakening growth backdrop is having the Fed's desired impact on prices. The prices paid component fell further below 50 to its lowest level since May 2020, a far cry from the staggering 87.1 reading in March. Supplier delivery times also continued to improve. The ISM data on prices have been corroborated by the consumer price index which showed prices for physical goods excluding food and energy have declined at a 3.5% annualized rate over three months ending in November. We suspect the ISM manufacturing index data for December, to be released the first week of the new year, will signal a continued softening in goods prices and a tepid outlook for manufacturing output growth.



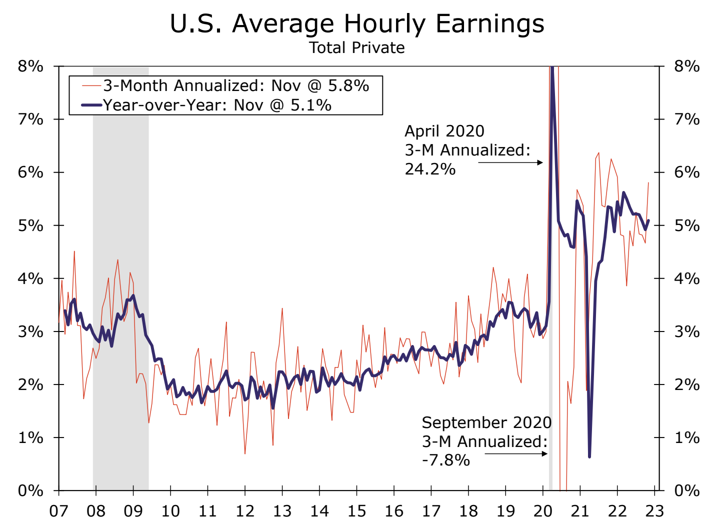
Source: Institute for Supply Management and Wells Fargo Economics

Nonfarm Payrolls • Friday (1/6)

The November employment report was not encouraging for Federal Reserve policymakers who are striving to bring the labor market into better balance. Nonfarm payrolls again blew past expectations, increasing by 263K in November. Wage growth was also much stronger than expected, and over the past three months, average hourly earnings rose at a 5.8% annualized rate, nearly double the pre-pandemic pace of wage growth. Making matters worse, new labor supply that might help put water on the fire was again not forthcoming; the labor force participation rate fell by a tenth of a percent and is now below where it was in January.

The next employment report will be released on January 6 but will be data for the final month of 2022. We look for hiring to downshift from the November pace but to remain a still-strong 205K. Chair Powell and company will be analyzing the report closely for signs that new labor supply is coming on line and that wage growth is moving closer to a pace that would be consistent with 2% inflation. Another strong reading for nonfarm payrolls should keep the central bank in tightening mode when it concludes its first meeting of 2023 on February 1.

(Return to Summary)



Source: U.S. Department of Labor and Wells Fargo Economics

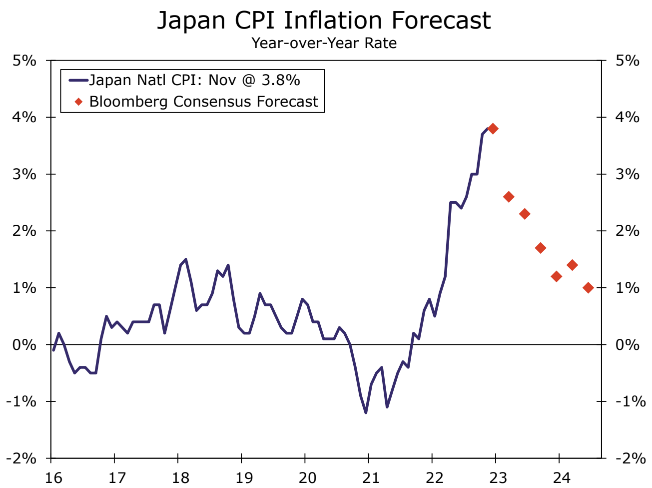
International Review

Bank of Japan Tweaks Its Accommodative Monetary Policy Stance

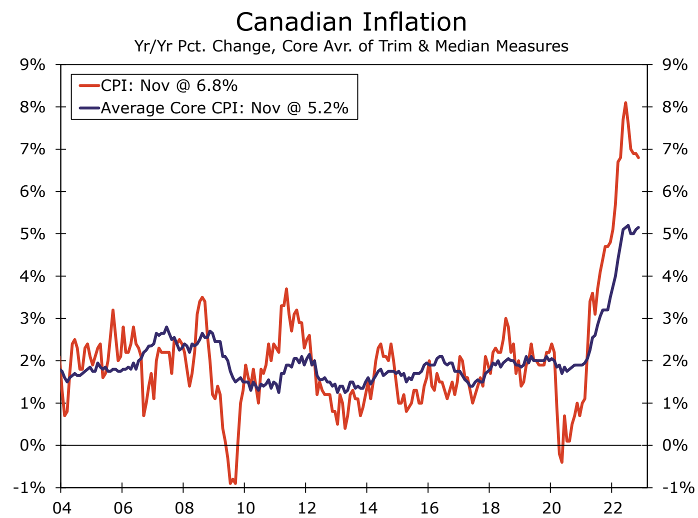
In a surprise move, the Bank of Japan (BoJ) tweaked its yield curve control policy at its December monetary policy meeting, widening the tolerance band for its 10-year Japanese government bond (JGB) yield to plus or minus 50 bps, around a zero percent target. The previous tolerance band was plus or minus 25 bps, also around a zero percent target. The vote was unanimous, and the BoJ's statement emphasized that the change in yield curve control policy was not a form of monetary tightening. Rather, the tweak was described as a move to improve JGB market functioning while still maintaining accommodative financial conditions. The BoJ also said its measures were designed to enhance the sustainability of its current monetary policy.

While the BoJ widened its tolerance band, it also announced that it will increase JGB purchases to 9 trillion yen per month (from 7.3 trillion previously) as well as conduct unlimited 10-year JGB fixed-rate purchases at 0.50%. The latter is a continuation of its previous pledge to buy 10-year JGBs in unlimited quantities, if needed. These accompanying actions, in our view, are intended to reinforce to market participants that the tweak in yield curve control policy is not meant to tighten monetary policy, nor are these actions intended to signal that tighter monetary policy is forthcoming. In fact, comments from BoJ Governor Kuroda were not particularly hawkish. Instead, Kuroda's comments maintained the central bank's typical dovish tone. To that point, Kuroda expressed that he does not think a further widening of the yield band is needed and explicitly said the tweak in yield curve control is "not a rate hike." In fact, the BoJ left the policy balance rate unchanged at -0.10%. Still the market reaction was swift, with both Japanese bond yields higher and the yen stronger after the announcement.

While this week's policy tweak has added uncertainty to the BoJ outlook, we continue to lean toward BoJ policymakers making no further policy adjustments through the end of 2023. For now, CPI inflation remains elevated, firming to 3.8% year-over-year in November. However, inflation pressures are expected to ease, which should lessen the BoJ's motivation for further policy moves. In addition, our base case is that monetary tightening from major global central banks is likely to come to an end in the first half of 2023, which could lessen the upward pressure on Japanese government bond yields. We acknowledge, however, the risk scenario of another policy change has clearly increased. Should Japanese inflation remain elevated or global central banks maintain a hawkish stance for longer than we expect, we believe modest BoJ monetary policy normalization could take place by around mid-2023. That could take the form of a policy rate increase and/or an upward shift in the target band for 10-year JGB yields.



Source: Bloomberg Finance L.P. and Wells Fargo Economics



Source: Bloomberg Finance L.P. and Wells Fargo Economics

Meanwhile, following this week's Canadian data we still lean toward a final 25 bps rate hike from the Bank of Canada in early 2023, which would take the policy rate to 4.50%. November CPI inflation eased, but not by as much as forecast, to 6.8% year-over-year, and remains well above the central bank's inflation target. Slower price gains for transportation, plus clothing and footwear, were partly offset by faster price gains for food, shelter, and health and personal care. Notably, the average of the core inflation measures also ticked slightly higher to 5.2% year-over-year.

Separately, while Canadian growth trends are not particularly robust, the Canadian economy continues to eke out gains. October GDP rose 0.1% month-over-month, slightly less than in September, and slowed to 3.1% year-over-year. Services activity rose 0.3%, while industrial output fell 1.0% over the month. Overall, still-elevated inflation and a slowly growing economy means we lean toward another Bank of Canada rate increase in early 2023.

(Return to Summary)

International Outlook

Weekly International Indicator Forecasts

Date	Indicator	Period	Consensus	Wells Fargo	Prior
27-Dec	Japan Retail Sales (YoY)	Nov	3.8%	--	4.4%
28-Dec	Japan Industrial Output (YoY)	Nov	-1.5%	--	3.0%
30-Dec	Switzerland KOF Leading Indicator	Dec	91.0	--	89.5
31-Dec	China Manufacturing PMI	Dec	48.3	--	48.0
31-Dec	China Services PMI	Dec	46.5	--	46.7

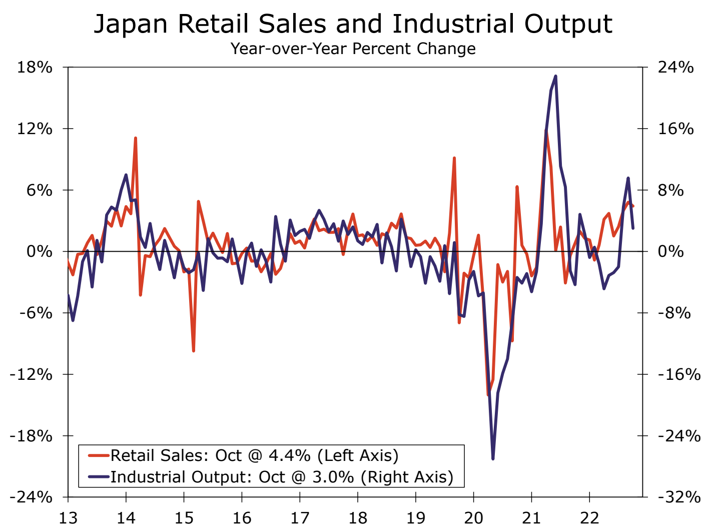
Forecast as of December 23, 2022

Source: Bloomberg Finance L.P. and Wells Fargo Economics

Japan Retail Sales/Industrial Output • Tuesday (12/27) & Wednesday (12/28)

Japan's economy has experienced moderate and uneven growth throughout 2022, with the most recent GDP data for Q3 showing a decline of 0.2% quarter-over-quarter, with growth slowing to 1.5% year-over-year. That said, growth prospects have improved somewhat in recent months as the impact of COVID-related restrictions have waned and the economy has increasingly opened up. This was highlighted by the Q4 Tankan survey, which saw an improvement in the large non-manufacturers' diffusion index to 10, while the large manufacturers' index eased to 7.

The consensus forecast is also for this improvement in the services sector of the economy to be reflected in November activity data. November retail sales are forecast to gain 3.8% year-over-year, which, while smaller than the October increase, would still be the eighth gain in a row. In contrast, activity in the manufacturing sector is expected to be more mixed, with the consensus forecast for November industrial output to fall 1.5% year-over-year.

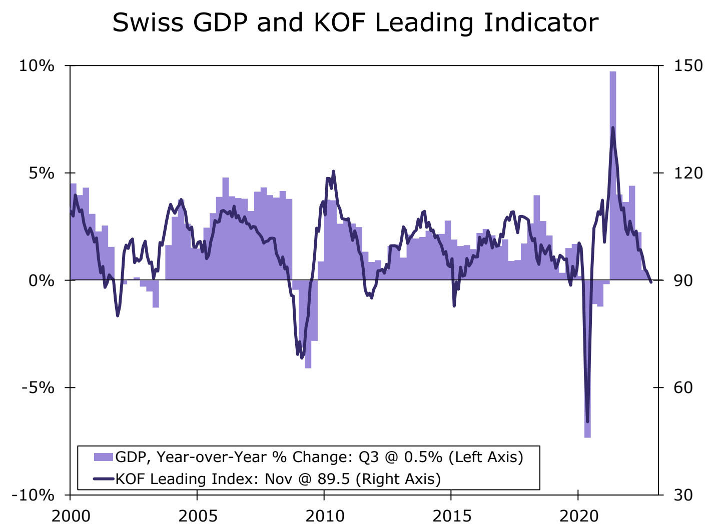


Source: Datastream and Wells Fargo Economics

Switzerland KOF Leading Indicator • Friday (12/30)

The Swiss economy has steadily lost momentum over the past year, reflecting both domestic and external factors. Higher inflation and rising interest rates have had a restraining effect on domestic activity, while soft Eurozone growth—a key trading partner for Switzerland—has weighed on export growth. Swiss consumer spending has slowed, but it is outright declines in construction investment and exports that have been the biggest drag of Swiss GDP growth, which showed a gain of just 0.2% quarter-over-quarter and 0.5% year-over-year in Q3.

Against this backdrop, the Swiss December KOF leading indicator will be closely watched, given that it offers among the most timely insights into the state of Switzerland's economy. The KOF indicator fell to 89.5 in November and is forecast to improve only modestly in December to 91.0. Historically, readings around 90 for the KOF indicator have been broadly consistent with zero GDP growth. Thus even a small improvement in the KOF indicator in December would suggest Switzerland's economy is stagnating at best. That said, if the Eurozone falls into recession as we expect, a contraction in Switzerland's economy also appears to be more likely than not.

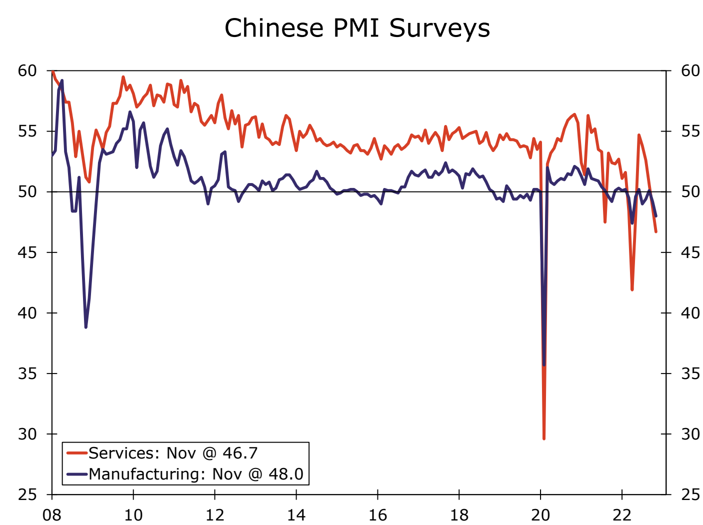


Source: Datastream and Wells Fargo Economics

China PMIs • Saturday (12/31)

China's uneven economic expansion has continued until late in 2022, as COVID restrictions have remained in place through much of this year and the real estate sector in particular has faced challenges. With a rebound in COVID cases over the past several weeks, November economic activity was especially soft, as retail sales slumped 5.9% year-over-year and growth in industrial output slowed to 2.2%.

More recently, authorities have begun to ease some COVID-related restrictions, including among other measures shortening quarantine periods, easing some travel restrictions and lessening COVID testing requirements in some situations. These moves perhaps offer some encouragement for a firming in economic activity going forward, and the December PMIs will be closely scrutinized for any signs of improvement. That said, it is possible that December may be too soon for there to be any meaningful improvement from the authorities' recent relaxation in restrictions. The consensus forecast is for mixed readings from the December PMIs, with the manufacturing PMI forecast to edge up to 48.3 but the non-manufacturing PMI forecast to dip to 46.5.



Source: Datastream and Wells Fargo Economics

(Return to Summary)

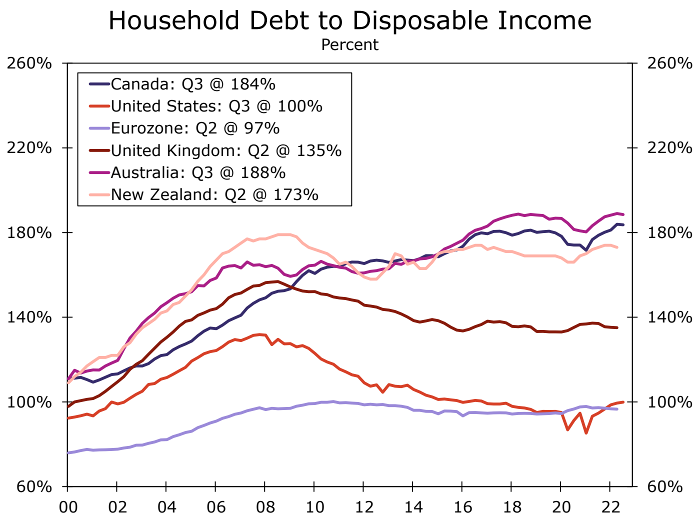
Credit Market Insights

Not All Rate Hikes Are Created Equally

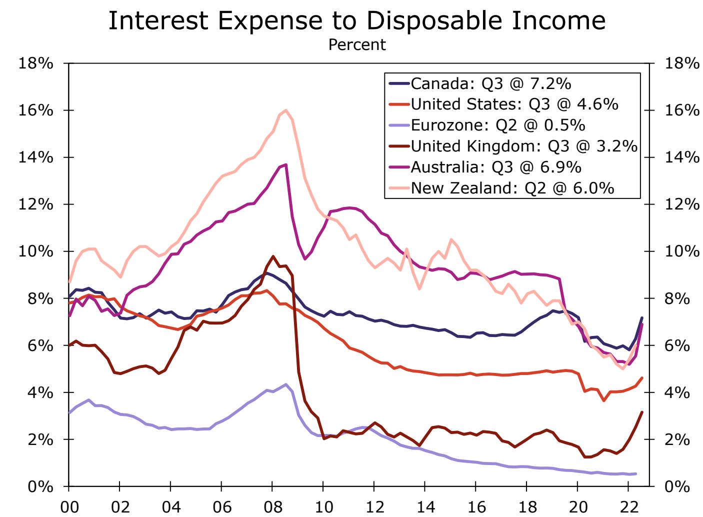
Many central banks around the world have tightened monetary policy aggressively to fight inflation, but how quickly rate hikes are transmitted through the economy depends not only on how high policy rates are lifted, but also structural elements of an economy related to household debt and mortgage rates. Rate hikes tend to affect the interest rate sensitive parts of the economy first; thus, the real estate sector tends to feel the effects of monetary tightening early on. Indeed, global housing markets are already showing signs of slowing. Generally, a larger proportion of variable rate mortgages to fixed rate mortgages tends to indicate interest costs are more sensitive to rate hikes. In turn, economies with more variable rate mortgages could see consumer activity slow more severely as central banks lift policy rates. This more timely transmission of monetary policy could potentially prompt central banks to end their rate hike cycles earlier.

A few developed economies stand out due to high levels of consumer debt. Looking at the ratio of household debt to household disposable income, the most recent household debt-to-income ratios from Q3 are 188% in Australia, 184% for Canada and 173% in New Zealand (chart). All else equal, these high levels of indebtedness could make the consumer sector, and in turn the overall economies, of these countries more susceptible to policy rate increases. The U.K. is something of a middle ground, with household debt-to-income at 135%. In the United States and Eurozone, household debt-to-income ratios are even lower at 100% and 97%, respectively.

Household interest costs as a percent of disposable income offer additional insight into the sensitivity of households to rising rates. Q3 interest expense data for Canada (7.2% of disposable income) and Australia (6.9%) show a jump in interest servicing ratio compared to the previous quarter (chart). In addition to New Zealand (6.0% in Q2), higher interest rate sensitivity could mean these countries may see household interest costs rise noticeably in the coming quarters. On the other hand, the U.S. (4.6%), U.K. (2.5%) and Eurozone (0.5%) may be slightly less vulnerable to rising rates. As the Fed, Bank of England and European Central Bank raise rates, interest servicing costs could rise gradually but still remain below the ratios of its peers. Thus, it will likely take longer for monetary policy tightening in the U.S., U.K. and Eurozone to have a more meaningful influence on activity and inflation, although it's possible other factors like high energy prices and depressed purchasing power could independently restrain activity.



Source: Datastream and Wells Fargo Economics



Source: Datastream and Wells Fargo Economics

Mortgage market structure can also play a significant role in how monetary policy changes are transmitted throughout the economy. Both Canada and Australia could be more susceptible to rate hikes due to a large proportion of variable rate mortgages. In Canada, there was a surge in variable rate mortgage lending during the pandemic, and now 35% of total outstanding mortgage balances are variable rate, compared 18% at the beginning of 2020. In Australia, around 60% of outstanding mortgages are variable rate, while fixed rates on a further 30% of total outstanding mortgages are scheduled to reset by the end of 2023. As a result, we would expect to see changes in policy rates to flow relatively quickly through Canadian and Australian mortgage rates and household interest costs. We view the U.K. and New Zealand as in the middle of the spectrum in terms of interest rate sensitivity. Around 83% of outstanding mortgage balances in the U.K. were fixed as of Q2, but a portion of those fixed rate mortgages will reset over the short to medium term. Just over half of fixed rate loans (around 40% of total outstanding mortgages) are due to reset within the next two years, with the other half resetting in two or more years). In New Zealand, 89% of outstanding mortgage balances are fixed rate and only 11% are variable rate. That said, some 75% out of the 89% of fixed rate mortgages are due to reset within the next two years, meaning interest costs for New Zealand households should still be quite sensitive to changes in policy rates within a reasonable period of time. The United States and the Eurozone have the smallest proportion of variable rate mortgages. In the past decade, U.S. adjustable rate mortgages have hovered at between 10% to 20% of total new mortgage lending. Meanwhile, the Eurozone has seen a shift toward longer-term lending. For loans on house purchases during the past 10 years, only 19% were for rates that were fixed for a year or less, while 52% of lending had rates that were fixed for 10 years or more. Given these characteristics, we would expect rising rates to be reflected only gradually in rising interest costs for U.S. and Eurozone households in the quarters ahead.

All in all, levels of indebtedness and household sensitivity to interest rate changes in Canada, Australia and to a lesser extent New Zealand suggest some risk of either a deeper downturn in those countries, or factors that could curtail central bank monetary tightening cycles earlier. We believe the U.K. is comparatively somewhat less sensitive to changes in policy rates, while lower levels of household indebtedness and less interest rate sensitivity in the U.S. and Eurozone suggest these economies could react more gradually to monetary tightening.

(Return to Summary)

Topic of the Week

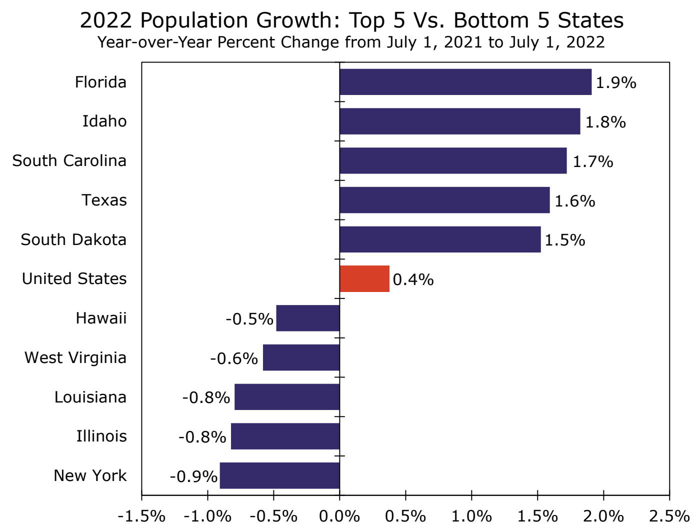
Population Growth Picks Up Slightly in 2022

One negative knock-on effect of the pandemic was a considerable slowdown in population growth. Fortunately, the trend appears to be reversing somewhat. According to the Census Bureau, population growth in the United States picked up 0.4% between July 2021 and July 2022, a still-slow pace by historical standards, but an improvement from the record-low 0.2% rate registered during the year-earlier period. The increase brings the resident population of the United States to 333.3 million. The primary driver of the mild acceleration was owed to a bounce back in net international migration. After totaling just over 372,000 in 2021, the count of net new residents from abroad rose to just over 1 million in 2022, a 169% gain. Another positive was that the number of births increased for the first time since 2015, further boosting overall population growth during the year.

The underlying details of the report revealed that not every region within the United States is growing. In fact, the Northeast (-0.4%) and Midwest (-0.1%) experienced a population decline during the year. Meanwhile, the West (0.2%) and South (1.1%) posted population gains.

Digging deeper, there was wide variation within these different regions. For example, while Washington's population grew a solid 0.6%, population growth elsewhere on the West Coast was mostly negative, with California (-0.3%), Oregon (-0.4%) and Alaska (-0.1%) registering drops. By contrast, the Mountain West saw among the strongest gains in the nation, led by Idaho (1.8%), Montana (1.5%), Arizona (1.3%), Utah (1.2%) and Nevada (1.0%).

The Midwest also saw mixed results. Population growth in Wisconsin (0.2%), Minnesota (0.1%) and Iowa (0.1%) was modestly positive, while Michigan (-0.03%) was essentially flat and Ohio (-0.1%) and Illinois (-0.8%) declined. The Northeast's most populated states experienced contractions, notably in New York (-0.9%), West Virginia (-0.6%), Pennsylvania (-0.3%), New Jersey (-0.1%) and Massachusetts (-0.1%).



Source: U.S. Census Bureau and Wells Fargo Economics

The South, which was already the largest region by population, expanded by another 1.2%, or 1.37 million residents. Florida's population rose by 1.9%, besting all other states in terms of relative growth for the first time since 1957. South Carolina (1.7%), Texas (1.6%), North Carolina (1.3%), Tennessee (1.2%) and Georgia (1.2%) posted similarly above-average rates of growth.

The largest factor boosting the South's population continues to be an influx of residents from other states. The South was the only region to experience a net increase of population from other regions. Net domestic migration totaled almost 868,000 residents, an increase from 2021's record 658,000 increase. In terms of absolute gain, Florida, Texas, North Carolina and South Carolina led the entire nation in terms of domestic migration. On the other hand, an outflow of residents continues to weigh heavily on the states where population growth is declining. Notably, New York, Illinois and California ranked high on the list of states where the number of residents moving out significantly outpaced the number of residents moving in.

(Return to Summary)

Market Data • Mid-Day Friday

U.S. Interest Rates

	Friday 12/23/2022	1 Week Ago	1 Year Ago
SOFR	4.30	4.32	0.05
3-Month LIBOR	4.72	4.74	0.21
3-Month T-Bill	4.29	4.25	0.06
1-Year Treasury	4.56	4.60	0.24
2-Year Treasury	4.31	4.18	0.69
5-Year Treasury	3.84	3.62	1.24
10-Year Treasury	3.72	3.48	1.49
30-Year Treasury	3.80	3.55	1.91
Bond Buyer Index	3.66	3.59	2.05

Foreign Exchange Rates

	Friday 12/23/2022	1 Week Ago	1 Year Ago
Euro ($/€)	1.062	1.059	1.133
British Pound ($/£)	1.206	1.215	1.341
British Pound (£/€)	0.881	0.872	0.845
Japanese Yen (¥/$)	132.790	136.600	114.390
Canadian Dollar (C$/$)	1.359	1.370	1.281
Swiss Franc (CHF/$)	0.933	0.934	0.919
Australian Dollar (US$/A$)	0.671	0.669	0.724
Mexican Peso (MXN/$)	19.435	19.780	20.643
Chinese Yuan (CNY/$)	6.990	6.974	6.370
Indian Rupee (INR/$)	82.866	82.871	75.245
Brazilian Real (BRL/$)	5.129	5.307	5.677
U.S. Dollar Index	104.277	104.701	96.019

Source: Bloomberg Finance L.P. and Wells Fargo Economics

Foreign Interest Rates

	Friday 12/23/2022	1 Week Ago	1 Year Ago
3-Month Euro LIBOR	-0.58	-0.59	-0.57
3-Month Sterling LIBOR	3.80	3.80	0.24
3-Month Canada Banker's Acceptance	4.85	4.83	0.51
3-Month Yen LIBOR	-0.03	-0.05	-0.08
2-Year German	2.66	2.43	-0.68
2-Year U.K.	3.61	3.49	0.66
2-Year Canadian	3.91	3.66	0.98
2-Year Japanese	0.01	-0.02	-0.09
10-Year German	2.40	2.15	-0.25
10-Year U.K.	3.64	3.33	0.92
10-Year Canadian	3.16	2.81	1.44
10-Year Japanese	0.39	0.25	0.07

Commodity Prices

	Friday 12/23/2022	1 Week Ago	1 Year Ago
WTI Crude ($/Barrel)	79.85	74.29	73.79
Brent Crude ($/Barrel)	83.53	79.04	76.85
Gold ($/Ounce)	1802.84	1793.08	1808.81
Hot-Rolled Steel ($/S.Ton)	661.00	675.00	1616.00
Copper (¢/Pound)	378.00	376.15	438.70
Soybeans ($/Bushel)	14.45	14.58	13.14
Natural Gas ($/MMBTU)	5.14	6.60	3.73
Nickel ($/Metric Ton)	29,075	28,103	20,050
CRB Spot Inds.	567.92	569.27	643.47

Subscription Information

To subscribe please visit: www.wellsfargo.com/economicsemail

Via The Bloomberg Professional Services at WFRE

Economics Group

Jay H. Bryson, Ph.D.	Chief Economist	704-410-3274	Jay.Bryson@wellsfargo.com
Sam Bullard	Senior Economist	704-410-3280	Sam.Bullard@wellsfargo.com
Nick Bennenbroek	International Economist	212-214-5636	Nicholas.Bennenbroek@wellsfargo.com
Tim Quinlan	Senior Economist	704-410-3283	Tim.Quinlan@wellsfargo.com
Sarah House	Senior Economist	704-410-3282	Sarah.House@wellsfargo.com
Azhar Iqbal	Econometrician	212-214-2029	Azhar.Iqbal@wellsfargo.com
Charlie Dougherty	Economist	212-214-8984	Charles.Dougherty@wellsfargo.com
Michael Pugliese	Economist	212-214-5058	Michael.D.Pugliese@wellsfargo.com
Brendan McKenna	International Economist	212-214-5637	Brendan.Mckenna@wellsfargo.com
Jackie Benson	Economist	704-410-4468	Jackie.Benson@wellsfargo.com
Shannon Seery	Economist	332-204-0693	Shannon.Seery@wellsfargo.com
Nicole Cervi	Economic Analyst	704-410-3059	Nicole.Cervi@wellsfargo.com
Jessica Guo	Economic Analyst	212-214-1063	Jessica.Guo@wellsfargo.com
Karl Vesely	Economic Analyst	704-410-2911	Karl.Vesely@wellsfargo.com
Patrick Barley	Economic Analyst	704-410-1232	Patrick.Barley@wellsfargo.com
Jeremiah Kohl	Economic Analyst	704-410-1437	Jeremiah.J.Kohl@wellsfargo.com
Coren Burton	Administrative Assistant	704-410-6010	Coren.Burton@wellsfargo.com

Required Disclosures

This report is produced by the Economics Group of Wells Fargo Bank, N.A. (“WFBNA”). This report is not a product of Wells Fargo Global Research and the information contained in this report is not financial research. This report should not be copied, distributed, published or reproduced, in whole or in part. WFBNA distributes this report directly and through affiliates including, but not limited to, Wells Fargo Securities, LLC, Wells Fargo & Company, Wells Fargo Clearing Services, LLC, Wells Fargo Securities International Limited, Wells Fargo Securities Europe S.A., and Wells Fargo Securities Canada, Ltd. Wells Fargo Securities, LLC is registered with the Commodity Futures Trading Commission as a futures commission merchant and is a member in good standing of the National Futures Association. WFBNA is registered with the Commodity Futures Trading Commission as a swap dealer and is a member in good standing of the National Futures Association. Wells Fargo Securities, LLC and WFBNA are generally engaged in the trading of futures and derivative products, any of which may be discussed within this report.

This publication has been prepared for informational purposes only and is not intended as a recommendation offer or solicitation with respect to the purchase or sale of any security or other financial product nor does it constitute professional advice. The information in this report has been obtained or derived from sources believed by WFBNA to be reliable, but has not been independently verified by WFBNA, may not be current, and WFBNA has no obligation to provide any updates or changes. All price references and market forecasts are as of the date of the report. The views and opinions expressed in this report are not necessarily those of WFBNA and may differ from the views and opinions of other departments or divisions of WFBNA and its affiliates. WFBNA is not providing any financial, economic, legal, accounting, or tax advice or recommendations in this report, neither WFBNA nor any of its affiliates makes any representation or warranty, express or implied, as to the accuracy or completeness of the statements or any information contained in this report and any liability therefore (including in respect of direct, indirect or consequential loss or damage) is expressly disclaimed. WFBNA is a separate legal entity and distinct from affiliated banks and is a wholly owned subsidiary of Wells Fargo & Company.

Important Information for Non-U.S. Recipients

For recipients in the United Kingdom, this report is distributed by Wells Fargo Securities International Limited ("WFSIL"). WFSIL is a U.K. incorporated investment firm authorized and regulated by the Financial Conduct Authority (“FCA”). For the purposes of Section 21 of the UK Financial Services and Markets Act 2000 (“the Act”), the content of this report has been approved by WFSIL, an authorized person under the Act. WFSIL does not deal with retail clients as defined in the Directive 2014/65/EU (“MiFID2”). The FCA rules made under the Financial Services and Markets Act 2000 for the protection of retail clients will therefore not apply, nor will the Financial Services Compensation Scheme be available. For recipients in the EFTA, this report is distributed by WFSIL. For recipients in the EU, it is distributed by Wells Fargo Securities Europe S.A. (“WFSE”). WFSE is a French incorporated investment firm authorized and regulated by the Autorité de contrôle prudentiel et de résolution and the Autorité des marchés financiers. WFSE does not deal with retail clients as defined in the Directive 2014/65/EU (“MiFID2”). This report is not intended for, and should not be relied upon by, retail clients.

SECURITIES: NOT FDIC-INSURED - MAY LOSE VALUE - NO BANK GUARANTEE