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Spring 2021
Solid Waste Forecast

Executive Summary

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Forecast Summary

U.S. economic activity set to accelerate in coming months despite the lag in employment growth. Regional waste continues to grow.

Economics

Gross Domestic Product: Real GDP rose at a 4.3% annual rate in the fourth quarter of 2020. IHS Markit, Metro's economic advisor, significantly raised its April GDP forecast to 6.2% in 2021 and 4.3% in 2022. As recently as the last Metro forecast, economists were expecting solid but unspectacular growth of 3.7% this year. Current U.S. economic conditions have greatly improved since then. The recurrence of the pandemic last winter was milder than expecations. A panel of economists surveyed by the Wall Street Journal also boosted its expectation of U.S. growth to 6.4% this year. U.S. production and employment are poised to accelerate in the months ahead as long as COVID retreats. IHS economists predict real GDP to reach its pre-pandemic peak by the second quarter of this year.

COVID recovery: The most important factor driving the recovery has been the acceleration of the U.S. vaccination campaign. This allows states to have the confidence to relax containment measures and encourage the re-opening of small businesses, which has and will continue to boost personal consumer expenditures (PCE). Progress in vaccinating as many Americans as soon as possible is key to improving the economy. At the end of March, 55 million people had been fully vaccinated and another 43 million had received a first dose.

Fiscal stimulus: Stimulus payments in January and the much larger American Recovery Plan (ARP), paid out in March, is credited for the surprisingly strong growth inflection this quarter. (The American Jobs Plan (AJP) has *not* been included in the April baseline forecast due to its uncertain political prospects.) Economic stimulus payments paved the way to re-energize a flagging recovery, releasing pent-up demand and boosting spending in sectors most severely affected by the pandemic. The recovery remains far from complete in sectors still closed or limited by social distancing restrictions, such as the travel industry, full-service restaurants, bars, hotels and cultural venues.

Federal Reserve monetary policy: The Fed was unanimous in keeping the Fed funds rate target at 0% to ¼%, repeating its earlier guidance. "Lift off" of the Fed funds target interest rate is expected to rise in increments starting in mid-2024. IHS Markit maintains this same interest rate outlook as before. The FED has indicated it will maintain this low setting until the U.S. has reached "maximum employment" and inflation appears on track to exceed a 2% rate.

Consumer sentiment and PCE: The major consumer sentiment indices rose to a pandemic-era high, but have yet to match pre-pandemic readings, indicating further improvements are still needed. Consumer spending is surging as households are able to resume some pre-pandemic spending patterns, although uneven social distancing restrictions continue to hamper an across the board recovery in all industries. Continued progress on vaccinations, improving job prospects and the 2nd and 3rd round of federal stimulus payments are bolstering PCE this quarter. The PCE outlook for the first quarter was raised to a 9.2% annual rate, bolstered by stimulus checks. The boost to spending will start fading in the second quarter and entirely dissipate by the end of the year.

Forecast Summary

Employment outlook: U.S. payroll employment jumped by 916,000 jobs in March and prior months were revised significantly higher. The March unemployment rate now stands at 6% as compared to 6.3% in January. The U.S. unemployment rate is forecasted to bottom out at 3.5% by mid-2023, but further rate improvements will be offset by a rebound in national labor force participation rates and temporary supply-chain problems thwarting the manufacturing of goods and services. More broadly, including self-employed workers, the number of continuing unemployed amercians has been lowered to 18 million, down from 33 million at its peak . The total of unemployed remains stubbornly high due to still too many new recipients being added to the total tally each week.

Mortgage interest rate: The 30-year fixed rate mortgage yield hit an all-time low of 2.68% in December 2020. The Fed has been successful in driving yields lower since the pandemic's onset. IHS Markit predicts the rate will rise gradually but remain historically low, only approaching 5% years after "lift off". Historically low interest rates help with affordability but are also contributing to stronger demand from first-time home buyers.

Housing: Home prices are experiencing classic supply and demand pressures. Too many home buyers are chasing after too little supply. The Case-Shiller and Federal Housing Finance Administration (FHFA) housing price indices (HPI) are currently reporting double-digit Y/Y price appreciation. The National Association of Home Builders (NAHB) HMI (housing market sentiment index) is tracking close to its historic high. IHS Markit predicts the market will ride out this price wave to the end of the year. Prices will still rise uncomfortably fast for first-time buyers in 2022. Not until 2023 does IHS Markit believe the current imbalance will work itself out.

Regional employment trends & outlook: MSA employment growth has been up and down since the pandemic. Recent job data from the last 2 months show growth edging up. The region has generally tracked with US job trends during the pandemic, but has underperformed the US recovery. According to PSU's Northwest Economic Research Center (Nerc), key economic figures such as employment and housing variables are expected to turn up. This outlook is consistent with OEA's statewide forecast and IHS Markit's national employment views. Nerc projects nonfarm payroll jobs will bounce back to pre-pandemic peak by 2022Q4.

Construction sector: COVID aside, an unusually harsh winter seems to have caused an abnormal pause in construction activity. Recent job declines in the MSA construction sector have pushed jobs back down to near pandemic losses. However, it is our belief that the underlying market fundamentals will right themselves and will prevail and overcome current difficulties. Nerc's forecast of construction employment skips over this soft patch, seeing sector jobs gradually reach the industry's pre-pandemic level.

Forecast Summary

Solid Waste

Regional Waste Outlook: The decline in tonnage associated with the pandemic is now safely in the rearview mirror, and regional core (wet PLUS dry) garbage has been growing now for the past two quarters, albeit at subdued rates. The economy is set to reach its pre-pandemic production peak by next quarter, consumers are getting their stimulus payments, home prices and household wealth continue to increase, and employment is getting better as more people in the industries most affected by the pandemic return to work. Consequently, garbage volumes have been rising. In this forecast, our outlook for wet waste in particular, is much better than our last (Winter) forecast, and also a bit better than our Fall 2020 forecast, especially in the near term.

Waste Recovery: Part of the boost to the outlook for wet waste comes from incorporating a further delay to the implementation of the Business Food Waste Program (BFWP). While existing generators of source-separated commercial food are expected to slowly step up their tonnage as more restaurants come back to seating diners, the large influx of new capture associated with Group 1 generators of the BFWP will not materialize until the end of 2023. And as we expected in our last forecast, the peak in source-separated residential food waste mixed with yard debris that occured last year has subsided, and waste levels are started to come down. We didn't anticipate how fast those levels would fall. As a result, there is less capture of food from the residential sector in our current outlook, as well.

Wet Tonnage Allocations: Last quarter, we reported that Metro transfer stations ended up with a little less than 40% of the allocatable wet waste in 2020. We also warned that due to a lower wet waste outlook relative to the forecast that set the 2021 tonnage allocations (our Fall forecast), that Metro would likely face pressure again this year. With our current wet waste outlook, this is now unlikely. Regional wet tonnage now appears to be high enough for private facilities to use all (we anticipate 98 - 99%) of their allocations and for Metro to still receive at least 40% of the waste.

Post-collection Recovery: It's well known that recovery rates of mixed dry waste at private facilities have been declining, and it's been happening now since the mid-2000s. Yet each forecast optimistically anticipates that the declines will "stabilize". So here again, we anticipate that recent declines in mixed dry waste recovery rates at private facilities will stabilize, and grow very, very slightly in 2022 and 2023.

Forecast Flash

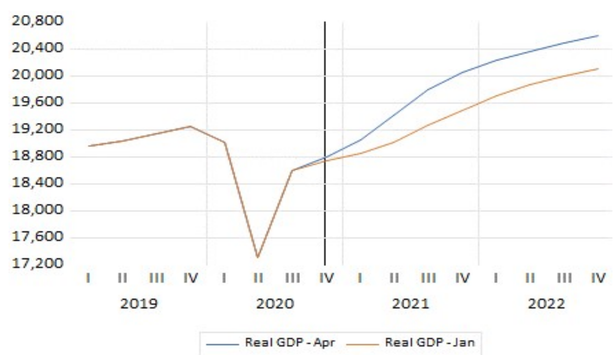
	Calendar Quarter					Calendar Year			
	2021:1	2021:2	2021:3	2021:4	2022:1	2020	2021	2022	2023
Key Economic Drivers (seas-adj)									
Consumer Sentiment Index	80	87	91	93	94	82	88	95	99
change (%)	*0.5*	*8.1*	*5.0*	*2.0*	*0.9*	*(15.0)*	*7.6*	*8.5*	*3.5*
*change from fall fc (%)**	---	---	---	---	---	---	---	---	---
Home Prices (real)	118	122	124	125	125	113	122	127	127
change (%)	*0.7*	*3.5*	*1.5*	*0.9*	*0.1*	*6.4*	*8.2*	*3.6*	*0.2*
*change from fall fc (%)**	---	---	---	---	---	---	---	---	---
Mortgage Rates (real)	2.83	3.10	3.23	3.39	3.52	3.08	3.14	3.61	3.76
change (%)	*3.7*	*9.5*	*4.2*	*4.8*	*3.9*	*(20.8)*	*1.8*	*15.1*	*4.0*
*change from fall fc (%)**	---	---	---	---	---	---	---	---	---
GDP (real, $T)	19.0	19.4	19.8	20.0	20.2	18.4	19.6	20.4	20.9
change (%)	*1.3*	*1.9*	*2.0*	*1.3*	*0.9*	*(3.5)*	*6.2*	*4.3*	*2.2*
*change from fall fc (%)**	---	---	---	---	---	---	---	---	---
Construction:Total Emp (ratio)	6.5	6.4	6.3	6.3	6.3	6.4	6.4	6.2	6.1
change (%)	*(0.2)*	*(0.4)*	*(1.6)*	*(0.3)*	*(0.5)*	*3.9*	*(0.7)*	*(2.1)*	*(2.2)*
change from fall fc (%)	*(3.0)*	*(3.5)*	*(4.7)*	*(3.9)*	*(4.0)*	---	*(3.8)*	*(4.1)*	*(4.9)*
Home Permits (4QMA, thous)	3.1	3.1	3.1	3.0	3.0	15.0	12.3	12.2	13.0
change (%)	*(5.9)*	*(0.9)*	*0.1*	*(1.7)*	*(0.4)*	*(4.2)*	*(17.8)*	*(0.4)*	*6.6*
change from fall fc (%)	*(3.5)*	*(10.9)*	*(15.1)*	*(20.0)*	*(17.7)*	---	*(12.7)*	*(11.8)*	*(2.0)*
Tri-County Core Tons *(thous)*	350	368	378	348	349	1,411	1,443	1,478	1,487
yoy change (%)	*2.5*	*6.6*	*3.6*	*(3.3)*	*(0.2)*	*(2.0)*	*2.3*	*2.4*	*0.6*
change from fall fc (%)	---	*(0.8)*	*(0.8)*	*(0.7)*	*1.0*	---	*0.0*	*1.0*	*(0.9)*
Wet Tons Avail. For Alloc. *(thous)*	181	185	186	187	182	715	739	748	747
yoy change (%)	*1.8*	*7.9*	*2.8*	*1.0*	*0.6*	*(3.1)*	*3.3*	*1.3*	*(0.2)*
change from fall fc (%)	---	*1.3*	*1.3*	*1.2*	*2.2*	---	*1.5*	*2.2*	*(0.3)*

	Calendar Quarter					Fiscal Year (ending)			
	2021:1	2021:2	2021:3	2021:4	2022:1	2020	2021	2022	2023
Metro Enterprise Tons									
MSW (thous)	138	133	135	128	128	495	533	530	541
yoy change (%)	*15.9*	*10.3*	*3.5*	*(2.5)*	*(7.0)*	*(9.8)*	*7.6*	*(0.6)*	*2.1*
change from fall fc (%)	---	*(3.4)*	*(3.4)*	*(3.7)*	*(1.3)*	---	*(3.5)*	*(2.4)*	*(2.1)*
Res. Organics (thous)	9.6	15.7	11.0	12.5	8.6	50.2	52.6	48.2	48.8
Com. Organics (thous)	3.0	2.8	3.1	3.1	3.6	14.9	11.2	13.4	18.0
Wood (hunds)	7.3	9.8	11.5	8.7	8.1	31.4	31.4	37.9	37.4
Yard debris (thous)	5.8	7.2	5.0	5.1	4.1	15.4	22.0	22.1	23.1
Staffed (thous)	89	97	101	74	78	314	371	356	363
Automated (thous)	27	29	29	28	27	106	112	113	115
Regional Fee/Tax Revenue Tons									
Regional System Fee (thous)	330	369	374	354	348	1,356	1,399	1,449	1,461
yoy change (%)	*4.2*	*12.1*	*7.2*	*1.0*	*5.3*	*(6.1)*	*3.2*	*3.6*	*0.8*
change from fall fc (%)	---	*2.4*	*2.4*	*2.3*	*2.0*	---	*(1.8)*	*2.2*	*1.2*
Excise Tax (thous)	335	373	379	359	353	1,376	1,418	1,469	1,481
Environmental Cleanup (thous)	41	77	85	78	67	289	211	301	287
Community Enhancement (thous)	268	286	280	272	262	1,078	1,108	1,110	1,133

* These are new features in our model this quarter, and have no corresponding Fall 2020 vintage

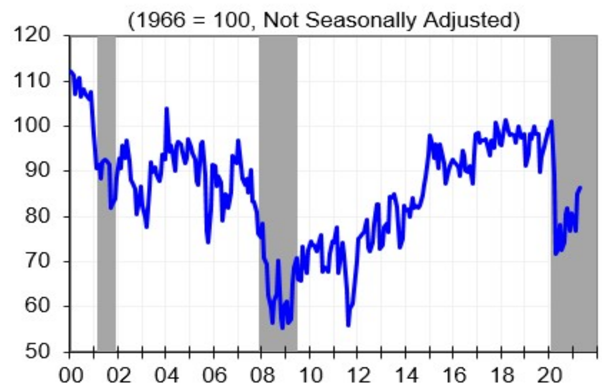
Forecast Flash

Vaccinations and fiscal stimulus drive GDP past pre-recession peak next quarter



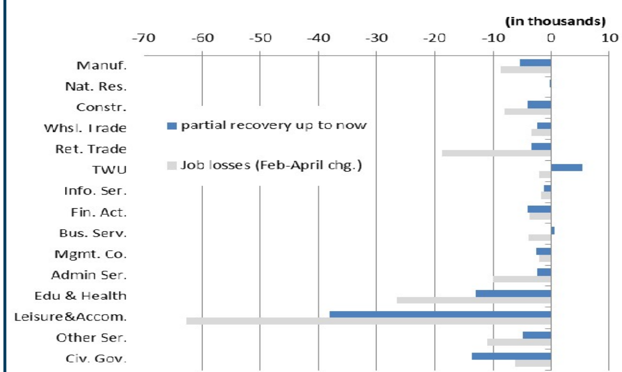
Source: IHS Markit, Bureau of Economic Analysis

Consumer sentiment hits highest levels since start of pandemic



Source: Univ. of Michigan

Job gaps still exist in all industries, and will lag behind in the ongoing recovery



Source: Bureau of Labor Statistics, Metro

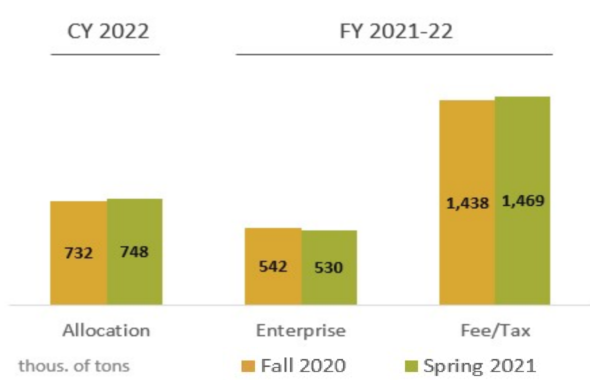
The wet waste outlook is better than that made last Fall

Source: Metro

Metro should receive at least 40% of the wet waste this year

Source: Metro

Tons subject to Metro fees and taxes look higher in FY 2022 than expected last Fall



Source: Metro

Key Assumptions

	Baseline Assumption	Change from Last Forecast
Bioscience/Vaccine	The US vaccination campaign has been sped-up. Over 90% of Americans are expected to be fully vaccinated by the end of this year. But, viral mutations risk new government lockdowns of the economy. The recovery still is fragile and depends on the course of the virus.	The economic recovery continues to depend on the course of the virus. Infection rates create caution among consumers, and slow reopenings. IHS Markit assumes wide-spread availability of vaccines by mid-2021.
US Macro	IHS Markit raised its GDP outlook. Growth is expected to surpass its pre-pandemic peak in Q2 of this year. An accelerated innoculation campaign and a significant boost from federal stimulus packages aided consumer spending this quarter. Consumer sentiment was up sharply in recent months and production (i.e., PMI) surveys point to robust growth to continue in the months ahead. GDP forecast revised up to 6.2% and 4.3% for 2021 and 2022.	Q3 2020 grew at 33.4%; Q4 2020 growth slowed to 3.0% as fiscal support and the impetus from pent-up demand waned. GDP negatively impacted this winter amidst a 2nd wave of rising infection rates and the reinstatement of containment measures. The winter forecast calls for growth in 2021 to be backloaded as a result of the fiscal stimulus arriving in Q1 and for herd immunity kicking in later in the year.
Fiscal Stimulus	The combined impact of Dec's $900B CAA (Consolidated Appropriation Act) and $1.9T ARP (American Recovery Plan) bolsters consumer spending in Q1 and into next year. Stimulus checks and extension of jobless benefits has the US on track to rebound this year. Not included in this forecast is the AJP (American Job Plan) due to its political uncertainty.	IHS Markit incorporates addditional fiscal stimulus / stabilization in Q1 2021, consisting of $300 emergency unemployment supplements, and a second round of stimulus checks of $600 / qualified recipient.
Monetary Policy	The Fed continues its LAP (Large Asset Purchases) to support the lending industry and credit markets. The Fed has repeatedly announced it will hold interest rates near the effective lower bound and to allow inflation to rise above 2% - permitting an overshoot of its previous inflation target.	No change in Fed monetary policies.

Key Assumptions

	Baseline Assumption	Change from Last Forecast
Home Prices	Residential prices are expected to rise faster in 2021. This trend is being supported (and will continue to be supported) by strong demand, especially among millenials in their prime home-buying years, and low interest rates. Supply-chain issues are rearing up to add to higher home production costs which are getting passed onto home buyers.	Home prices leaped 15.2% y/y in Q4. Double-digit price gains are expected thru 2021. This trend is being supported (and will continue to be supported) by strong demand, especially among millenials in their prime home-buying years, and low interest rates.
Construction	Harsh wintry conditions and a 3rd COVID wave curtailed construction activity last quarter, pushing permits and jobs lower. Historically low interest rates, pent-up demand and emergence of first-time home buyers will ensure that the demand for housing will be robust for the foreseeable future. Market fundamentals are strong and with the arrival of warmer weather, construction expected to rebound shortly.	Construction activity continues to be strong, as permits/activity can still proceed even with social distancing measures in place. Demand for new homes or for remodeling will continue to be supported by low mortgage and/or home equity loan rates, demand for more work-from-home office space, and migration from urban to suburban/ex-urban areas
Commercial Food Waste	The Business Food Waste Program is delayed another year, with Group 1 and Group 2 generator capture not expected to materialize until late 2023.	Near-term capture is lower
Residential Food Waste	Capture of residential food waste mixed with yard debris is expected to drop faster than expected from its 2020 peak.	Near-term capture is lower
Wet Waste Allocations & Utilizations	CY 2021 allocations (based off Fall 2020 Solid Waste Forecast) remain in effect, and get scaled based on regional tonnage in subsequent calendar years. Utilization of allocations based on most 2020 actual utilizations, which average 98-99% for the region.	No change
Pre-consumer wastes and Environmental Cleanup	Pre-consumer (special) wastes that incur Metro's full fee and tax at disposal sites, and environmental cleanup materials, which incur reduced Metro fees and taxes, are expected to grow slowly at their damped long-run trends	No change

Key Assumptions

	Baseline Assumption	Change from Last Forecast
Post-collection Recovery	Recovery rate declines finally stabilize this year in 2021, and grow slightly in 2022 and 2023 as one private facility implements investments to it's recovery process.	Lower rates through forecast horizon