## Is The Economic Roller Coaster A Thing Of The Past?

# Considerable Uncertainty Remains For Tie Demand

By Petr Ledvina

What a quarter it was! From an economic standpoint, the second quarter presented unprecedented changes, and by some economic indicators, one might question whether the world has been "in recession."

After a severe contraction in economic activity, a substantial rebound occurred. To illustrate the wild swings in many economic indicators, the real retail sales graph can provide an accurate picture (Figure 1).

One can observe the difference between the financial crisis of 2008 and the COVID-19 crisis. During the last recession, real retail sales dropped by 13.6 percent from November 2007 to March 2009. This drop in retail sales persisted, and it took more than four years for sales to return to November 2007 levels.

During the current recession, sales dropped by 21 percent from January to April, but this was followed by a rebound in which sales exceeded the January sales level by the end of June, an incredible rebound.

Since domestic manufacturing has not recovered (see Business Trends, page 26), the increased demand for goods resulted in a significant decrease in the retailers' inventory-to-sales ratio, and to some extent, in the inventory-to-sales ratio for business also. Similarly, the higher demand and stronger dollar caused imports of goods to rise to all-time highs in July, reaching about $81 billion. The slowdown in manufacturing also negatively affected the demand for sawmills' products such as pallets.

In the housing market, low mortgage rates created a shopping spree. Home ownership rate increased to 67.9 percent in Q2. A year ago, the rate was 64.1 percent, and during the housing bubble from 2004-2006, the rate was about 69 percent. In addition, the Case-Shiller U.S. National Home Price Index rose 3.1 percent from February to July (FRED). This caused the monthly supply of houses to decline to 3.3 months given current demand, the lowest level in 30 years, sparking building permits and housing starts to rebound significantly. These values and directions are hardly normal for a recession.

With the unemployment rate still above 8 percent and the labor participation rate sliding from 63.4 percent to a low of 60.2 percent and rebounding only halfway in August to 61.7 percent, the recession appears to be a miracle. Still, the S&P and Equifax both expect the unemployment rate to be around 8 percent by the end of the year. Also, business closures are on the rise as reported by both agencies. ▶

**Table 1 - New Wood Crossties (in thousands)**

| Year | Real GDP | Class 1 Purchases | Small Market Purchases | Total Purchases | Pct |
|---|---|---|---|---|---|
| 2017 | 2.3% | 15,929 | 7,400 | 23,329 | -4.1% |
| 2018 | 2.9% | 15,489 | 5,872 | 21,361 | -8.4% |
| 2019 | 2.3% | 14,471 | 4,105 | 18,575 | -13.0% |
| 2020 | -4.0% | 14,031 | 3,814 | 17,845 | -3.9% |
| 2021 | 3.9% | 13,879 | 4,474 | 18,353 | 2.8% |

Figure 1

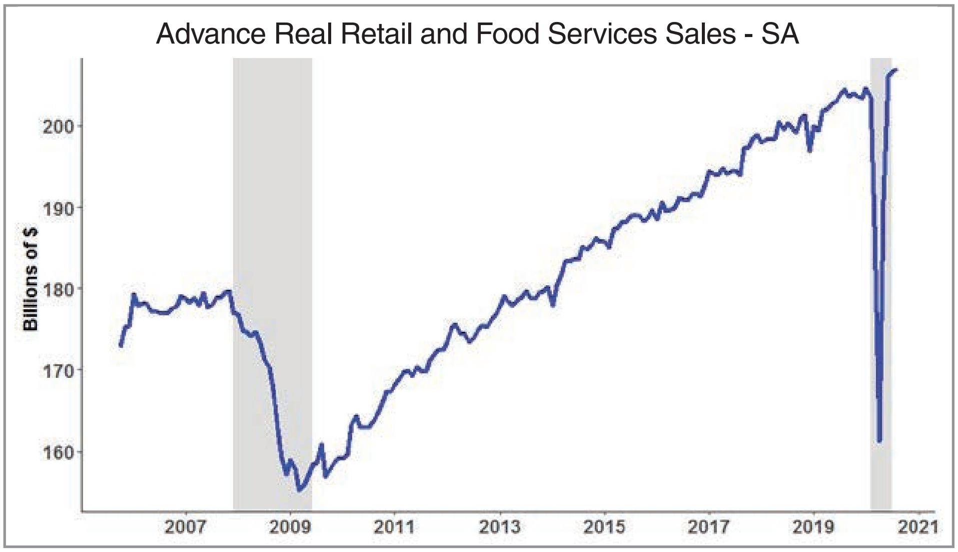
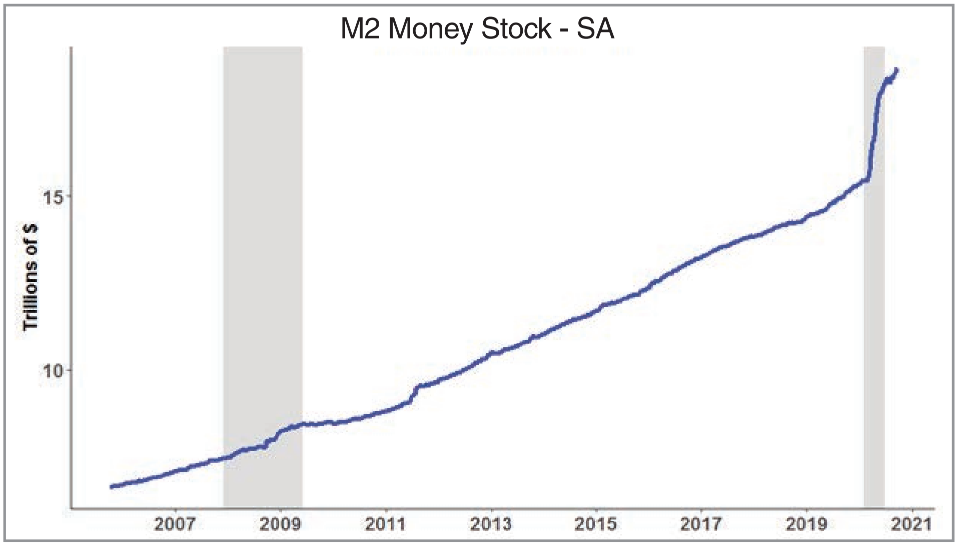



Figure 2



## Table 2

| District & Railroad | Crossties Laid In Replacement Or in Addition - 2019: New Wood Ties | New Ties (Other than Wood) | Second-Hand Ties (All Types) | Track Operated by Reporting RR: Tons of Rail Laid Per Mile | Crossties Per Mile | Avg. Spend Per Ton of Rail | Avg. Spend Per Tie* | Rail Laid In Replacement Or In Addition - 2019: New Rail Laid (Tons) | Relay Rail Laid (Tons) | Avg. Weight Rail (lbs/yd) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Eastern District** | | | | | | | | | | |
| CSX Transportation | 3,068,776 | 13,785 | 0 | 3.5 | 106.5 | $5,486.4 | $110.5 | 94,821 | 6,172 | 136.1 |
| Grand Trunk Corp. (CN) | 617,598 | 50 | 0 | 3.7 | 67.3 | $5,975.2 | $158.5 | 25,109 | 8,995 | 134.6 |
| Norfolk Southern | 2,374,461 | 29,120 | 71,860 | 3.8 | 87.1 | $4,426.2 | $140.3 | 92,682 | 14,576 | 136.0 |
| **Total Eastern Dist.** | **6,060,835** | **42,955** | **71,860** | **3.6** | **92.9** | **$5,086.0** | **$127.2** | **212,612** | **29,743** | **135.9** |
| | | | | | | | | | | |
| **Western District** | | | | | | | | | | |
| BNSF | 2,407,607 | 127,003 | 0 | 3.6 | 63.6 | $6,134.0 | $139.5 | 144,186 | 863 | 135.7 |
| KCS | 461,032 | 5,000 | 0 | 3.1 | 114.1 | $5,397.5 | $156.7 | 8,393 | 4,224 | 133.7 |
| Soo Line Corp. (CP) | 311,319 | 0 | 0 | 2.9 | 70.8 | $4,899.2 | $91.1 | 11,551 | 1,242 | 135.2 |
| UP | 3,256,815 | 217,763 | 0 | 3.2 | 79.6 | $7,635.5 | $139.4 | 138,903 | 1,754 | 135.9 |
| **Total Western Dist.** | **6,436,773** | **349,766** | **0** | **3.4** | **73.8** | **$6,732.2** | **$138.4** | **303,033** | **8,083** | **135.7** |
| | | | | | | | | | | |
| **Total U.S.** | **12,497,608** | **392,721** | **71,860** | **81.8** | **$6,011.4** | **133.1** | **$134.05** | **515,645** | **37,826** | **135.8** |

Source: Association of American Railroads (AAR). The average weight of rail installed for CP's Soo Line Corp is an AAR estimate using data from the other railroads and CPSL spending data.

## Table 3—Railway Tie Association Annual Survey

Estimated Crosstie Requirements • Class I Railroads
2020-2022 Inclusive

**Authorized Crossties for 2020**

| | Total Track | New Wood Crossties | | Wood Relay | New Non-Wood Crossties | | | Switch Ties (Units) | | Bridge Timbers |
|---|---|---|---|---|---|---|---|---|---|---|
| District and Railroad | Mileage | Hardwood | Softwood | Crossties | Concrete | Steel | Other | Wood | Other | Units |
| Eastern U.S. | 40,500 | 4,850,000 | 0 | 180,000 | 2,500 | 50,000 | 0 | 310,000 | 0 | 50,000 |
| Western U.S. | 98,723 | 6,090,000 | 500,000 | 9,000 | 305,000 | 5,000 | 2,000 | 270,000 | 500 | 70,000 |
| Canada | 32,500 | 3,098,500 | 0 | 0 | 69,300 | 100 | 5,000 | 53,655 | 0 | 15,000 |
| **TOTAL** | **171,723** | **14,038,500** | **500,000** | **189,000** | **376,800** | **55,100** | **7,000** | **633,655** | **500** | **135,000** |

**Authorized Crossties for 2021**

| | Total Track | New Wood Crossties | | Wood Relay | New Non-Wood Crossties | | | Switch Ties (Units) | | Bridge Timbers |
|---|---|---|---|---|---|---|---|---|---|---|
| Eastern U.S. | 40,500 | 5,000,000 | 0 | 200,000 | 25,000 | 50,000 | 0 | 310,000 | 0 | 50,000 |
| Western U.S. | 98,723 | 6,190,000 | 500,000 | 1,008,000 | 305,000 | 10,000 | 1,001,000 | 270,000 | 500 | 70,000 |
| Canada | 32,500 | 3,256,000 | 0 | 0 | 76,000 | 1,000 | 35,000 | 60,000 | 0 | 18,000 |
| **TOTAL** | **171,723** | **14,446,000** | **500,000** | **1,208,000** | **406,000** | **61,000** | **1,036,000** | **640,000** | **500** | **138,000** |

**Authorized Crossties for 2022**

| | Total Track | New Wood Crossties | | Wood Relay | New Non-Wood Crossties | | | Switch Ties (Units) | | Bridge Timbers |
|---|---|---|---|---|---|---|---|---|---|---|
| Eastern U.S. | 40,500 | 5,200,000 | 0 | 150,000 | 25,000 | 50,000 | 0 | 310,000 | 0 | 50,000 |
| Western U.S. | 98,723 | 6,190,000 | 500,000 | 9,000 | 355,000 | 10,000 | 2,000 | 270,000 | 500 | 70,000 |
| Canada | 32,500 | 3,250,000 | 0 | 0 | 73,000 | 1,000 | 45,000 | 60,000 | 0 | 18,000 |
| **TOTAL** | **171,723** | **14,640,000** | **500,000** | **159,000** | **453,000** | **61,000** | **47,000** | **640,000** | **500** | **138,000** |

How is it possible? The government has printed an incredible amount of money and distributed it to both consumers and businesses (Figure 2). As a percentage of GDP, government debt is getting close to WWII levels. Yet more debt may come in the form of another stimulus bill, although its fate is uncertain given the political back and forth in Washington.

Who will pay for it? The chairman of the FED already hinted that part of it will be covered through higher inflation, and, depending on the election results, part of it by increased taxes. As economist Milton Friedman pointed out, inflation is nothing more than disguised taxation. However, it may take some time for the inflation to pick up.

Some economists argue that we had this level of debt at the end of WWII, and the United States was able to lower the debt substantially over time. Government debt bottomed out in the early 1980s at around 32 percent. (Slow process, right?) A similar reduction of the current debt is difficult to imagine given current conditions.

In the late 1940s, the ratio of household debt to disposable income was below 25 percent. These days, it runs around 100 percent. Also, the tax rates were quite different. Today, the top marginal rate is 37 percent, while in the 40s, it was above 80 percent (taxpolicycenter.org).

As the economy was riding the roller coaster, so were the railroads, as seen on their Q2 earnings calls.

For instance, auto and auto parts shipments plummeted about 90 percent in the early stages of the pandemic, to recover substantially, but not fully, by the end of June. Mirroring retail sales, intermodal shipments dropped and then recovered to above February levels (see Business Trends, page 26). However, the meltdown in oil prices meant a significant decline in crude oil and fracking sand shipments, cheap natural gas and, to some degree, lower electricity demand weighed heavily on coal shipments.

In general, the railroads had a "bad" quarter, yet they managed to turn a profit. Though their revenue Q2/Q2 declined about 20 percent on average, they were able to offset this to a large degree by lowering their cost structure. This was done, for example, by improving efficiency, using longer trains, lowering fuel costs, and lowering labor costs. They adapted so successfully that they are now becoming more competitive with trucking. Some of the railroads were able to forge relationships with e-commerce and take advantage of the ship-to-home economy.

It is hard to imagine how one can make predic-

## Table 4 - Short Line Survey Summary 2020

| Tie Categories | 2019 Usage | 2020 Projected | 2021 Projected | 2022 Projected |
|---|---|---|---|---|
| New 6" and 7" Ties | 2,949,711 | 4,120,946 | 3,227,439 | 3,179,253 |
| Relay 6" and 7" Ties | 37,160 | 39,882 | 43,324 | 32,397 |
| **Grand Total All Wood Ties** | **2,986,871** | **4,160,828** | **3,270,763** | **3,211,650** |
| Switch Ties | 49,009 | 58,410 | 57,763 | 31,193 |
| Bridge Timbers | 12,381 | 12,054 | 12,427 | 13,293 |
| Concrete Ties | 722 | 842 | 722 | 722 |
| Steel Ties | 1,300 | 8,183 | 28,161 | 43,589 |
| Composite/Plastic Ties | 4,874 | 5,175 | 16,908 | 36,163 |

| | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Track Miles Reporting** | **19,735** | **28,080** | **21,908** | **26,900** | **23,232** | **20,620** | **24,964** | **25,391** | **18,217** | **21,116** | **26,696** | **15,116** | **14,966** | **28,516** | **19,924** | **17,663** | **30,648** |
| **Total Track Miles** | **47,500** | **47,500** | **47,500** | **47,500** | **47,500** | **47,500** | **47,500** | **47,500** | **47,500** | **47,500** | **46,823** | **46,823** | **46,823** | **46,018** | **46,018** | **43,990** | **45,847** |
| % Reporting | 41.55% | 59.12% | 46.12% | 56.63% | 48.91% | 43.41% | 52.56% | 53.45% | 38.4% | 44.5% | 57.0% | 32% | 32% | 62% | 43% | 40% | 67% |
| **Total Roads Reported** | **185** | **234** | **188** | **223** | **206** | **176** | **197** | **192** | **157** | **185** | **191** | **117** | **116** | **139** | **130** | **115** | **170** |
| **Total Short Lines** | 603 | 603 | 603 | 558 | 558 | 558 | 558 | 572 | 572 | 572 | 572 | 572 | 306 | 455 | 633 | 633 | 633 |
| % Reporting | 30.68% | 38.81% | 31.18% | 39.96% | 36.92% | 31.54% | 35.30% | 33.57% | 27.4% | 32.3% | 33.4% | 20.5% | 38% | 31% | 21% | 18% | 27% |

tions with such dramatic changes and so much uncertainty. The virus continues to spread, returning in waves; a vaccine has yet to be developed; extended unemployment benefits ended; and another rescue package is in limbo. It is understandable that railroads are reluctant to provide guidance for their financial performance in the near future. Nevertheless, the railroads' Capex may be affected downward only marginally as they adhere to their previously announced plans.

As indicated in May/June *Crossties*, it seems that the railroads provided some anchor for tie demand by indicating they would use the lower traffic volume for track maintenance. This provides some certainty for tie demand this year.

At the same time, the S&P forecast for 2020 GDP growth was revised upward from -5.2 percent to -4 percent, and this should put more freight on the rails. On the other hand, this may be partially offset by slightly lower coal and oil production forecasts from May numbers (EIA).

Next year, the situation will be reversed. The S&P lowered its forecast for GDP growth from 6.2 percent to 3.9 percent. This forecast is based on the assumption that the vaccine will be available mid-summer 2021 and the $500 billion stimulus package will be passed.

The EIA revised its May coal production forecast from 550 million short tons to 600, and oil production and prices were also predicted to improve more than originally forecast. This in turn should increase rail traffic, and with it revenue.

Based on the newly available data, RTA presents an updated 2020 and 2021 tie demand forecast.

Compared to our May forecast, the total demand for 2020 was revised upward by 1.5 percent as the economy improved more than expected and Class I railroads stuck to their capital expenditures.

For the small market the improvement is negligible, as the better economic outlook is offset by low energy prices and increased capacity of oil pipelines. Because of the lower revenues in this sector, the small market may not be able to capitalize on the availability of the 45G tax credit. This should change measurably next year when they should be in better position to take advantage of the tax credit.