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MATEMAT RE MICH PROFICE LOADINGS

The bureau issues each Friday a report showing the number of railway cars of revenue freight loaded at all stations in Canada during the previous week ended on Saturday. Because of the promptness of issue and because the data include loadings for the entire country from farms, forests, minos, factories, etc., they are used to measure fluctuations in business.

There is no doubt that the report has real value for this purpose but it also has its limitations and these should not be ignored. A car load is not a fixed quantity. The weight varies considerably from month to month even for cars of the same commodity, and for cars of different commodities the differences are often quite large. For example, the net weight of cars of grain is around 40 to 45 tons whereas for cars of merchandise it is from 2.5 to 3.0 tons.

The Bureau compiles and issues a monthly railway traffic report which shows the tens of revenue freight loaded at Canadian stations, received from foreign connections, unloaded at Canadian stations and delivered to foreign connections. The freight is divided into 76 commodity classes and because the unit of measure, a ton, is a fixed unit and because of the larger class of commodities, the report is much more informative than the car loading report and also more reliable for measuring fluctuations of business and for measuring trends. The drawback, however, is that the date of publication is about 60 days after the end of the month covered, as against 5 days after the end of the week for the car loading report.

The monthly traffic report is compiled on a terminating basis, that is the January report includes all freight arriving at destination or delivered to foreign connections during January, and this freight is shown in its proper columns on the originating side of

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the report. Consequently, each report will include some freight loaded in the preceding month but the Bureau has no data that will show the proportion loaded in the current month and in the preceding month.

The weekly car loadings were converted to monthly loadings and divided into the tons of freight loaded as shown on the monthly traffic report. The results are shown in Chart 1. Some of the monthly fluctuations are probably due to the cars and tons being for different periods as explained above, but the 12 month moving average which indicates trends would not be affected appreciably by this factor. The results indicate that some correction should be made to the weekly car loading data if they are to be used to measure trends over many years. For example, cars loaded for the first 9 months of 1941 were 11.3 per cent less than for the first 9 months of 1929 but the tons loaded were 7.5 per cent greater due to the average tons per car being greater. A comparison with 1940 data shows an increase in cars of 14 per cent and in tons of 18 per cent and comparisons of September 1941 with August 1941 shows an increase in cars of 5.6 per cent and in tons of 0.2 per cent.

Freight cars of both Canadian and United States railways have shown increases in capacity each year which would allow heavier loading but the main factor in controlling the tons per cars has evidently been the relative supply of cars to demand. When traffic was falling off tons per car decreased and when traffic began to pick up tons per car increased. Because of this cars loaded decreased at a lower rate than tons and on the upswing of traffic cars increased also at a lower rate. This is indicated by Chart 2 which shows the index numbers of both tons and cars loaded each month as reported on the weekly car loading and the monthly traffic reports.

For both series data for 1931-1939 were used to measure seasonal variations and data for 1935-1939 were used as a base of 100. The index curve for car loadings was on top during the decline and on the bottom during most of the recovery period. These index numbers are shown on tables 1 and 2. The difference in time should have little effect on these index numbers.

It would be difficult to make any adjustment in the weekly car loading report for the fluctuations in the average tons per car but these monthly data probably will assist in preventing a misinterpretation of the weekly data. The Bureau will issue a monthly report showing the cars and tons loaded, computed as explained above, and the respective index numbers. Tons for the last two months will be estimated from car loading data and previous estimates will be revised as tonnage data become available.

The series of index numbers for monthly car loadings differ slightly from the series shown in the "Monthly Review of Business Statistics" due to a different period used for measuring seasonal variations. These hereafter will be on the same basis.

Table L.

THE PUBLIC OF TONS OF REVENUE FREIGHT LOADED (Average 1935-1939=100)

| *************************************** | | | | | | | | | | | | |
|---|---------|----------|-------|-------|-------|-------|-------|--------|-----------|---------|----------|----------|
| Year | January | February | March | April | May | June | July | August | September | October | November | December |
| 1928 | 150.5 | 154.4 | 149.0 | 132.6 | 142.4 | 149.5 | 140.5 | 136.1 | 138.9 | 155.9 | 161.8 | 162.3 |
| 1929 | 132.2 | 149.5 | 148.€ | 149.9 | 148.4 | 161.9 | 153.0 | 141.4 | 150.5 | 119.8 | 108.0 | 112.7 |
| 1930 | 124.4 | 125.9 | 126.3 | 119.7 | 130.4 | 135.9 | 119.6 | 125.9 | 120.8 | 100.5 | 89.0 | 96.9 |
| 1931 | 96.5 | 96.6 | 97.0 | 103.3 | 105.4 | 109.2 | 91.1 | 82.9 | 76.8 | 82.4 | 86.3 | 85.0 |
| 1932 | 76.5 | 86.4 | 86.6 | 86.9 | 79.4 | 88.7 | 65.7 | 67.8 | 82.7 | 70.7 | 71.7 | 71.7 |
| 1933 | 61.1 | 64.5 | 72.1 | 66.1 | 71.6 | 87.2 | 70.7 | 76.8 | 73.1 | 73.1 | 73.6 | 76.8 |
| 1934 | 90.6 | 85.1 | 94.4 | 86.1 | 99.2 | 90.7 | 91.2 | 83.8 | 83.4 | 81.0 | 81.4 | 83.5 |
| 1935 | 88.0 | 95.6 | 91.0 | 93.0 | 91.2 | 92.0 | 92.4 | 84.2 | 82.5 | 90.0 | 82.9 | 88.9 |
| 1936 | 89.7 | 97.1 | 98.0 | 101.5 | 98.3 | 96.4 | 97.4 | 99.6 | 102.0 | 91.5 | 87.4 | 101.2 |
| 1937 | 99.3 | 100.2 | 108.7 | 110.0 | 110.9 | 108.7 | 109.0 | 109.6 | 106.5 | 93.8 | 98.8 | 107.1 |
| 1938 | 107.6 | 104.1 | 103.1 | 101.3 | 100.9 | 95.3 | 88.0 | 98.0 | 103.9 | 103.8 | 93.2 | 98.8 |
| 1939 | 93.3 | 91.5 | 99.8 | 100.7 | 121.8 | 101.5 | 104.0 | 106.8 | 132.6 | 111.1 | 124.8 | 123.3 |
| 1940 | 129.7 | 133.€ | 113.3 | 126.1 | 147.4 | 149.2 | 146.3 | 139.6 | 109.5 | 105.8 | 119.6 | 145.2 |
| 1941 | 146.8 | 142.9 | 153.7 | 164.0 | 182.3 | 174.9 | 164.1 | 161.5 | 127.5 | 121.5 | 136.0 | |

Table 2.

INDEX NUMBERS OF CARS OF REVENUE FREIGHT LOADED

| 1928 | 146.0 | 150.9 | 143.3 | 129.6 | 150.7 | 145.3 | 146.6 | 143.6 | 146.3 | 162.1 | 165.6 | 146.7 |
|------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1929 | 138.7 | 147.7 | 141.7 | 145.9 | 154.0 | 153.4 | 158.0 | 146.1 | 135.8 | 136.2 | 123.9 | 122.7 |
| 1930 | 132.9 | 130.8 | 129.3 | 125.3 | 139.9 | 132.7 | 133.2 | 129.1 | 122.7 | 118.8 | 108.9 | 108.7 |
| 1931 | 112.2 | 107.4 | 105.7 | 110.2 | 108.4 | 109.5 | 104.4 | 94.4 | 91.8 | 102.2 | 100.5 | 98.4 |
| 1932 | 91.2 | 98.3 | 93.4 | 92.6 | 91.7 | 91.4 | 79.3 | 80.1 | 87.4 | 81.6 | 83.8 | 81.1 |
| 1933 | 75.9 | 75.2 | 79.0 | 71.2 | 81.0 | 86.8 | 82.1 | 85.2 | 82.0 | 85.5 | 87.6 | 83.8 |
| 1934 | 97.1 | 92.7 | 95.2 | 91.1 | 97.4 | 95.4 | 94.7 | 93.9 | 86.0 | 93.7 | 92.8 | 91.3 |
| 1935 | 100.0 | 101.6 | 93.7 | 94.9 | 94.5 | 91.7 | 98.3 | 90.4 | 89.4 | 96.9 | 93.2 | 92.3 |
| 1936 | 95.1 | 101.8 | 96.4 | 99.3 | 95.4 | 99.1 | 102.2 | 102.0 | 101.8 | 101.6 | 95.7 | 109.4 |
| 1937 | .105.9 | 105.2 | 107.€ | 106.7 | 104.8 | 105.7 | 110.6 | 106.1 | 106.1 | 100.3 | 102.3 | 108.7 |
| 1938 | 103.0 | 101.7 | 100.7 | 95.6 | 95.7 | 92.7 | 92.0 | 97.9 | 101.0 | 99.1 | 95.6 | 95.2 |
| 1939 | 94.5 | 90.2 | 95.9 | 92.1 | 107.8 | 96.0 | 99.0 | 105.2 | 119.3 | 104.3 | 108.1 | 106.3 |
| 1940 | 115.6 | 112.5 | 97.9 | 112.5 | 118.9 | 118.2 | 124.8 | 117.5 | 102.3 | 108.3 | 112.8 | 123.0 |
| 1941 | 125.7 | 122.9 | 125.3 | 129.3 | 138.6 | 133.9 | 139.6 | 128.0 | 119.1 | 120.€ | 124.4 | |
| | 7 | | | | | | | | | | | |

TONS OF REVENUE FREIGHT LOADED

(Sponganor of Toms)

| Year | January | February | March | April | May | June | July | August | September | October | November | December |
|------|---------|----------|-------|-------|-------|-------|-------|--------|-----------|---------|----------|----------|
| 1928 | 6,084 | 5,995 | 6,122 | 5,180 | 6,032 | 6,299 | 6,423 | 6,491 | 8,404 | 10,665 | 9,400 | 6,941 |
| 1929 | 5,344 | 5,801 | 6,105 | 5,852 | 6,286 | 6,820 | 6,997 | 6,748 | 7,900 | 8,197 | 6,273 | 4,806 |
| 1930 | 5,030 | 4,889 | 5,190 | 4,676 | 5,525 | 5,727 | 5,467 | 6,005 | 7,311 | 6,876 | 5,171 | 4,125 |
| 1931 | 3,903 | 3,750 | 3,984 | 4,053 | 4,463 | 4,600 | 4,167 | 3,956 | 4,646 | 5,637 | 5,017 | 3,612 |
| 1932 | 3,093 | 3,364 | 3,559 | 3,393 | 3,363 | 3,737 | 3,004 | 3,235 | 5,004 | 4,835 | 4,167 | 3,040 |
| 1933 | 2,473 | 2,504 | 2,964 | 2,580 | 3,036 | 3,675 | 3,232 | 3,665 | 4,424 | 5,000 | 4,276 | 3,259 |
| 1934 | 3,661 | 3,305 | 3,877 | 3,362 | 4,204 | 3,823 | 4,172 | 3,999 | 5,046 | 5,542 | 4,731 | 3,548 |
| 1935 | 3,559 | 3,710 | 3,740 | 3,634 | 3,863 | 3,874 | 4,226 | 4,015 | 4,995 | 6,158 | 4,817 | 3,781 |
| 1936 | 3,624 | 3,769 | 4,026 | 3,966 | 4,165 | 4,060 | 4,453 | 4,750 | 6,170 | 6,262 | 5,080 | 4,309 |
| 1937 | 4,013 | 3,890 | 4,466 | 4,297 | 4,697 | 4,580 | 4,982 | 5,228 | 6,446 | 6,415 | 5,740 | 4,567 |
| 1938 | 4,350 | 4,042 | 4,234 | 3,958 | 4,275 | 4,014 | 4,022 | 4,677 | 6,288 | 7,101 | 5,414 | 4,207 |
| 1939 | 3,773 | 3,553 | 4,101 | 3,933 | 5,159 | 4,277 | 4,755 | 5,097 | 8,027 | 7,600 | 7,252 | 5,263 |
| 1940 | 5,244 | 5,185 | 4,657 | 4,927 | 6,242 | 6,285 | 6,687 | 6,659 | 6,629 | 7,237 | 6,952 | 6,245 |
| 1941 | 5,936 | 5,547 | 6,317 | 6,404 | 7,722 | 7,367 | 7,502 | 7,704 | 7,717 | ≠ 8,310 | £ 7,902 | 11.0 |

/ Estimated.

Table 4.

CARS OF REVENUE FREIGHT LOADED

(Thousands of Cars)

| - | | The state of the state of the state of | | | | | | | | | | |
|------|-----|--|-----|-----|------|-----|-----|-----|-------------|-----|------|-----|
| 1928 | 265 | 267 | 286 | 252 | 300 | 294 | 291 | 313 | 361 | 420 | 380 | 276 |
| 1929 | 252 | 261 | 282 | 284 | 307 | 311 | 313 | 318 | 3 35 | 353 | 285 | 231 |
| 1930 | 242 | 232 | 257 | 244 | 279 | 269 | 264 | 281 | 303 | 308 | 250 | 204 |
| 1931 | 204 | 190 | 211 | 214 | 216 | 222 | 207 | 205 | 227 | 265 | 231 | 185 |
| 1932 | 166 | 174 | 186 | 180 | 183 | 185 | 157 | 176 | 216 | 212 | 193 | 152 |
| 1933 | 134 | 133 | 157 | 138 | 161 | 176 | 163 | 186 | 202 | 222 | 201 | 158 |
| 1934 | 176 | 164 | 190 | 177 | 194 | 193 | 188 | 205 | 212 | 243 | 21.3 | 172 |
| 1935 | 182 | 180 | 187 | 185 | 188 | 186 | 195 | 197 | 221 | 251 | 214 | 174 |
| 1936 | 173 | 180 | 192 | 193 | 190 | 201 | 203 | 222 | 251 | 263 | 220 | 206 |
| 1937 | 192 | 186 | 214 | 208 | 209 | 214 | 219 | 231 | 262 | 260 | 235 | 204 |
| 1938 | 187 | 180 | 200 | 186 | 191 | 188 | 182 | 213 | 249 | 257 | 220 | 179 |
| 1939 | 172 | 160 | 191 | 179 | 21.5 | 195 | 196 | 229 | 295 | 270 | 248 | 200 |
| 1940 | 210 | 199 | 195 | 219 | 237 | 240 | 248 | 256 | 252 | 281 | 259 | 231 |
| 1941 | 229 | 218 | 250 | 252 | 276 | 271 | 277 | 279 | 294 | 313 | 286 | |







