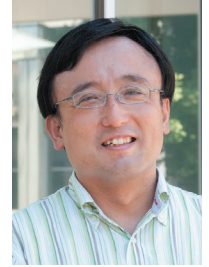


Impact of the Coronavirus Pandemic on Railway Transportation



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Concerns over Impact of New Declaration of State of Emergency

On Jan. 7, 2021, due to the rising number of novel coronavirus infections, the Japanese government declared a State of Emergency in Tokyo and the three prefectures of Kanagawa, Saitama and Chiba. Measures such as voluntary closures of restaurants and a 70% reduction in commuting to offices by utilizing remote working have been requested, and like the spring of 2020 there is concern over the impact on the Japanese economy around the services industry.

Transportation is one of the industries where the impact is worrying. In calculating the Indices of Tertiary Industry Activity of the Ministry of Trade, Economy, and Industry, transportation makes up 9.28% of the total figure. This article will use the “Monthly Statistical Report on Railway Transport” of the Ministry of Land, Infrastructure and Transport, which captures the state of the railway industry, one sector of transportation, to identify the impact of the coronavirus pandemic on the railway industry.

The monthly report lists the results of the Statistical Survey on Railway Transport. The Statistical Survey on Railway Transport is conducted every month with the aim of revealing the transportation situations of railways, tramways and ropeways. The survey is also used for index estimations for the railway industry in the Indices of Tertiary Industry Activity. Preliminary results for the entire transportation volume are released at the end of the month after next, and a detailed picture of the state of railway transportation can be formed by the middle of the month in the monthly report which is released three months later. At the time when this article was written, preliminary results for November 2020 which were released on Jan. 14, and preliminary results for October 2020 which were released on Jan. 27 were available. Since surveys for ropeways are only done on a fiscal year basis, the summary below will be for the state of transportation for railways and tramways.

60% of Passenger Transportation via JR

The Statistical Survey on Railway Transport shows the situation by data in two large categories: passengers carried by railways and tramways and freight transportation by railways.

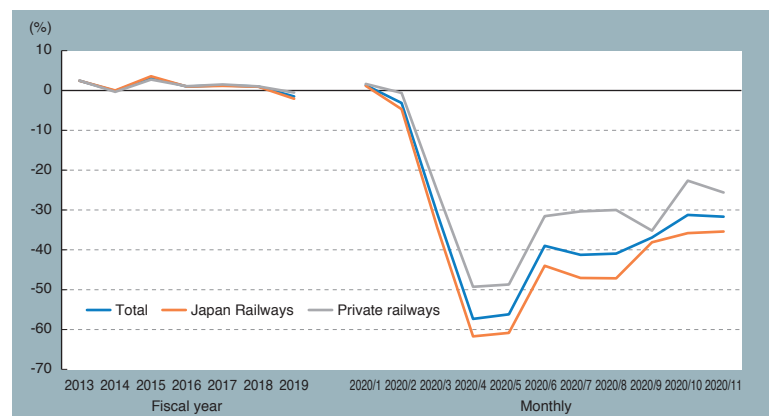
Japan Railway (JR), the Japanese National Railways

which was divided by regions and privatized in 1987, and other private railways are responsible for passenger transportation. Passenger transportation volume for fiscal 2019 was 435.02 billion passenger-kilometers, of which roughly 60% was by JR. To clarify, passenger-kilometers is not merely the number of passengers, but an aggregate which takes into consideration what distance each passenger travelled.

Chart 1 shows the trend in growth of passengers carried by railways since fiscal 2013 and the monthly trend of year-on-year growth in passengers carried by railways since January 2020. The volume of passengers carried by railways for fiscal 2019 showed a decrease of 1.5% compared to the previous year, which was the first decrease since fiscal 2014 (0.1% decrease). The sharp drop in foreign tourists from February 2020 due to the coronavirus pandemic is thought to be one contributing factor. In April 2020 when a State of Emergency was first declared, it plunged to a year-on-year decrease of 57.3%. The drop in JR is greater than other private railways. A temporary recovery in tourism with the “Go To” campaigns in the autumn of last year saw the negative gap shrinking, and the November 2020 figure, which was released on Jan. 27, saw negative year-on-year growth shrink to a negative 31.7% (negative 35.4% for JR, and negative 25.6% for private railways).

CHART 1

Trends in passengers carried by railways & tramways (Passenger-kilometers basis, year-on-year growth)



Source: “Monthly Statistical Report on Railway Transport”, Ministry of Land, Infrastructure, Transport and Tourism

Negative Contribution of Non-Commuter Ticket Passengers

The Monthly Statistical Report on Railway Transport also shows the volume of passengers carried by railways using commuter tickets for work or for school, and for those who do not. Of the total volume of passengers carried by railways for fiscal 2019, passengers using commuter tickets and those who do not were roughly half and half. On the other hand, the percentage of commuter tickets for JR was around 40%, putting the percentage of non-commuter tickets higher, and the percentage of non-commuter tickets for private railways was 60%. Hence in [Chart 1](#), the drop in JR is thought to be large because the decline in tourism demand has resulted in a drop in non-commuter ticket passengers carried by railways.

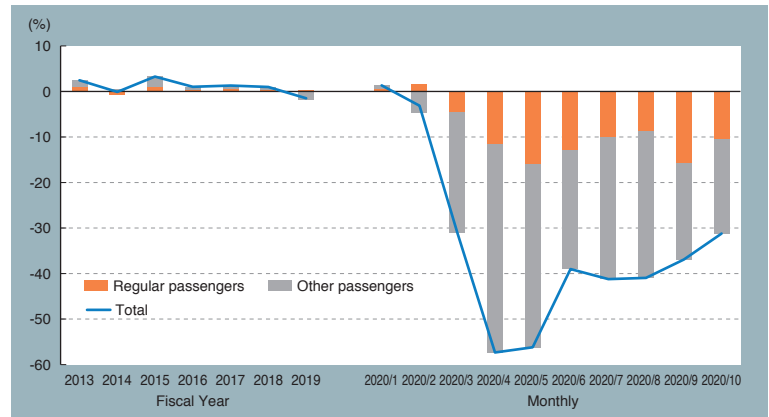
Indeed, factor analysis of the changes in passenger transportation volume shows that the contribution of non-commuter-ticket passengers is significant for the decline since the beginning of 2020 ([Chart 2](#)). The decline was largest in April 2020, and while the contribution of commuter ticket use was a negative 11.6 points, the contribution of non-commuter ticket use was a negative 45.7 points. The October 2020 figure, which was available at the time this article was written, was a negative 31.2% for the total volume of passengers carried by railways and tramways, and the contribution of commuter ticket use was a negative 10.4 points, while the contribution of non-commuter ticket use was a negative 20.8 points. With a recovery in tourism demand through the “Go To” campaigns, which is captured in the non-commuter ticket use, the negative contribution of non-commuter ticket use has begun to shrink, but with working remotely becoming more common it looks like commuter ticket travel may be on a declining trend.

Freight Transportation by Railways Seeing Sharp Recovery

Freight transportation by railways is divided into container transportation and carload transportation. Carload transportation is a form of freight transportation which transports freight by hiring freight trains by one car train unit, and this used to be the central mode of freight transportation by railways, but now it is mostly container transportation. Of 19.9 billion tonnage-kilometers of freight transportation for fiscal 2019, around 90% was via container transportation. To note, tonnage-kilometers is not just the freight volume, but an aggregate which takes into consideration what distance each freight cargo has been transferred.

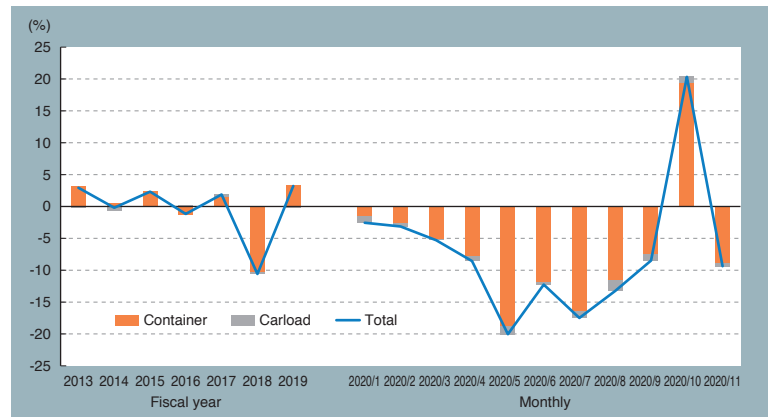
Like passengers carried by railway and tramway, the reduction in production activities due to the coronavirus pandemic caused freight transportation volume to drop in the spring of 2020, but with the bottoming out in May 2020 at a year-on-year negative 20%, it has

CHART 2
Trends in passengers carried by railways & tramways (Passenger-kilometers basis, year-on-year growth)



Source: “Monthly Statistical Report on Railway Transport”, Ministry of Land, Infrastructure, Transport and Tourism

CHART 3
Trends in freight transportation by railways (Tonnage-kilometers carried basis, year-on-year growth)



Source: “Monthly Statistical Report on Railway Transport”, Ministry of Land, Infrastructure, Transport and Tourism

turned back sharply. It concurs with the recovery in production activities. By October 2020, it had turned to a positive year-on-year increase, and it was a 9.4% decrease in November 2020 ([Chart 3](#)).

Preliminary results for January 2021 which will likely be impacted by the suspension of the “Go To” campaigns and the new declaration of a State of Emergency are scheduled to be released in late March. In order to observe the impact of the coronavirus pandemic on the services industry, the Monthly Statistical Report on Railway Transport will require continued monitoring.

Note: This article was written based on available information as of Jan. 28, 2021.

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Calendar year, Quarter and Month	Real GDP		Nominal GDP		IIP rate of increase over previous year/term (month) (%)	CPI (All terms, less fresh food) rate of increase over previous year/the same term (month) of the previous year (%)
	Amount (trillion yen)	Rate of increase over previous year/term (%)	Amount (trillion yen)	Rate of increase over previous year/term (%)		
2013	528.2	2.0	508.7	1.6	-0.3	0.4
2014	529.8	0.3	518.8	2.0	2.0	2.6
2015	538.1	1.6	538.0	3.7	-1.2	0.5
2016	542.1	0.8	544.4	1.2	0.0	-0.3
2017	551.2	1.7	553.1	1.6	3.1	0.5
2018	554.3	0.6	556.2	0.6	1.1	0.9
2019	555.8	0.3	561.3	0.9	-3.0	0.6
2020	529.2	-4.8	539.3	-3.9	-10.1	-0.2
2020/1st Qtr.	545.7	-0.6	554.7	-0.5	0.4	0.6
2nd Qtr.	500.4	-8.3	510.6	-8.0	-16.9	-0.1
3rd Qtr.	526.7	5.3	538.6	5.5	8.7	-0.2
4th Qtr.	542.7	3.0	552.1	2.5	6.4	-0.9
2020/May	—	—	—	—	-8.9	-0.2
June	—	—	—	—	1.9	0.0
July	—	—	—	—	8.7	0.0
Aug.	—	—	—	—	1.0	-0.4
Sept.	—	—	—	—	3.9	-0.3
Oct.	—	—	—	—	4.0	-0.7
Nov.	—	—	—	—	-0.5	-0.9
Dec.	—	—	—	—	-1.0	-1.0
Sources	"SNA (National Accounts of Japan)", Cabinet Office				"Indices of Industrial Production", Ministry of Economy, Trade and Industry	"Consumer Price Index", Statistics Bureau, Ministry of Internal Affairs and Communications

Calendar year, Quarter and Month	Foreign Trade Statistics									
	Exports amount (trillion yen)	Exports rate of increase over previous year/ the same term (month) of the previous year (%)	Imports amount (trillion yen)	Imports rate of increase over previous year/ the same term (month) of the previous year (%)	Exports amount to US (trillion yen)	Exports to US rate of increase over previous year/ the same term (month) of the previous year (%)	Imports amount from US (trillion yen)	Imports from US rate of increase over previous year/ the same term (month) of the previous year (%)	Exports amount to EU (trillion yen)	Exports to EU rate of increase over previous year/ the same term (month) of the previous year (%)
2013	69.8	9.5	81.2	14.9	12.9	15.6	6.8	12.0	5.9	8.8
2014	73.1	4.8	85.9	5.7	13.6	5.6	7.5	10.7	6.4	8.2
2015	75.6	3.4	78.4	-8.7	15.2	11.5	8.1	6.9	6.7	4.4
2016	70.0	-7.4	66.0	-15.8	14.1	-7.1	7.3	-9.2	6.5	-2.8
2017	78.3	11.8	75.4	14.1	15.1	6.9	8.1	10.5	7.1	9.5
2018	81.5	4.1	82.7	9.7	15.5	2.4	9.0	11.4	7.7	7.8
2019	76.9	-5.6	78.6	-5.0	15.3	-1.4	8.6	-4.2	7.4	-3.0
2020	68.4	-11.1	67.7	-13.8	12.6	-17.3	7.4	-14.0	6.3	-15.1
2020/1st Qtr.	18.1	-5.5	18.3	-7.2	3.5	-9.2	2.1	-5.8	1.8	-8.6
2nd Qtr.	14.3	-25.3	16.3	-16.0	2.2	-44.7	1.9	-13.6	1.3	-29.9
3rd Qtr.	16.7	-13.0	15.7	-20.1	3.2	-13.7	1.7	-19.9	1.5	-20.2
4th Qtr.	19.4	-0.7	17.4	-12.0	3.7	-0.2	1.8	-17.2	1.8	-2.3
2020/May	4.2	-28.3	5.0	-26.1	0.6	-50.6	0.6	-27.4	0.4	-33.8
June	4.9	-26.2	5.1	-14.4	0.7	-46.6	0.6	-12.6	0.4	-28.4
July	5.4	-19.2	5.4	-22.3	1.1	-19.5	0.6	-25.4	0.4	-30.5
Aug.	5.2	-14.8	5.0	-20.7	0.9	-21.3	0.6	-21.9	0.5	-19.2
Sept.	6.1	-4.9	5.4	-17.4	1.2	0.6	0.6	-10.7	0.6	-10.6
Oct.	6.6	-0.2	5.7	-13.2	1.3	2.5	0.6	-15.5	0.6	-2.6
Nov.	6.1	-4.2	5.8	-11.1	1.2	-2.5	0.6	-13.8	0.6	-2.6
Dec.	6.7	2.0	6.0	-11.6	1.2	-0.7	0.6	-21.9	0.6	-1.6
Sources	"Trade Statistics of Japan", Ministry of Finance									

Calendar year, Quarter and Month	Cash salary amount rate of increase over previous year/the same term (month) of the previous year (%)	Active job openings-to-applicants ratio (time(s))	Unemployment rate (%)	M2 rate of increase over previous year/ the same term (month) of the previous year (%)	Balance of payments		Yen/\$ rate (averaged during the term)
					Trade balance (trillion yen)	Current balance (trillion yen)	
2013	-0.2	0.93	4.0	3.6	-8.8	4.5	97.6
2014	0.5	1.09	3.6	3.4	-10.5	3.9	105.8
2015	0.1	1.20	3.4	3.6	-0.9	16.5	121.0
2016	0.6	1.36	3.1	3.4	5.5	21.4	108.8
2017	0.4	1.50	2.8	4.0	4.9	22.8	112.2
2018	1.4	1.61	2.4	2.9	1.1	19.4	110.4
2019	-0.4	1.60	2.4	2.4	0.4	20.5	109.0
2020	-1.2	1.18	2.8	6.5	3.0	17.7	106.8
2020/1st Qtr.	0.7	1.44	2.4	3.0	0.5	5.8	108.9
2nd Qtr.	-1.7	1.21	2.8	5.3	-1.5	1.4	107.6
3rd Qtr.	-1.2	1.05	3.0	8.5	1.4	5.3	106.1
4th Qtr.	-2.2	1.05	3.0	9.1	2.6	5.2	104.5
2020/May	-2.3	1.20	2.9	5.1	-0.5	1.1	107.3
June	-2.0	1.11	2.8	7.2	-0.0	0.1	107.6
July	-1.5	1.08	2.9	7.9	0.1	1.5	106.8
Aug.	-1.3	1.04	3.0	8.6	0.4	2.1	106.0
Sept.	-0.9	1.03	3.0	9.0	0.9	1.6	105.7
Oct.	-0.7	1.04	3.1	9.0	1.0	2.1	105.2
Nov.	-1.8	1.06	2.9	9.1	0.6	1.9	104.4
Dec.	-3.2	1.06	2.9	9.2	1.0	1.2	103.8
Sources	"Monthly Labour Survey", Ministry of Health, Labour and Welfare	"Employment Referrals for General Workers", Ministry of Health, Labour and Welfare	"Labour Force Survey", Statistics Bureau, Ministry of Internal Affairs and Communications	"Money Stock", Bank of Japan	"Balance of Payments", Ministry of Finance		Bank of Japan

Calendar year, Quarter and Month	Foreign Trade Statistics									
	Imports amount from EU (trillion yen)	Imports from EU rate of increase over previous year/ the same term (month) of the previous year (%)	Exports amount to Asia (excluding China) (trillion yen)	Exports to Asia (excluding China) rate of increase over previous year/ the same term (month) of the previous year (%)	Imports amount from Asia (excluding China) (trillion yen)	Imports from Asia (excluding China) rate of increase over previous year/ the same term (month) of the previous year (%)	Exports amount to China (trillion yen)	Exports to China rate of increase over previous year/ the same term (month) of the previous year (%)	Imports amount from China (trillion yen)	Imports from China rate of increase over previous year/ the same term (month) of the previous year (%)
2013	7.0	15.6	25.2	8.1	18.3	12.6	12.6	9.7	17.7	17.4
2014	7.5	6.9	26.1	3.5	19.4	6.2	13.4	6.0	19.2	8.6
2015	7.8	4.6	27.1	3.7	18.9	-2.6	13.2	-1.2	19.4	1.3
2016	7.4	-5.0	24.7	-8.7	16.2	-14.5	12.4	-6.5	17.0	-12.4
2017	8.0	7.0	28.0	13.3	18.6	14.8	14.9	20.5	18.5	8.5
2018	8.8	10.6	28.8	2.9	20.0	7.8	15.9	6.8	19.2	4.0
2019	8.8	0.3	26.6	-7.6	19.0	-5.3	14.7	-7.6	18.5	-3.9
2020	7.7	-12.6	24.1	-9.4	17.1	-9.6	15.1	2.7	17.5	-5.3
2020/1st Qtr.	2.0	-6.6	6.4	-3.2	4.7	-2.6	3.2	-5.3	3.8	-16.7
2nd Qtr.	1.9	-15.9	5.3	-18.9	4.0	-13.6	3.6	-2.0	4.6	3.6
3rd Qtr.	1.9	-16.7	5.7	-14.2	4.0	-15.1	3.9	9.1	4.2	-9.6
4th Qtr.	2.0	-11.0	6.7	-1.5	4.4	-7.6	4.4	8.1	4.8	1.6
2020/May	0.6	-29.4	1.6	-17.9	1.2	-21.3	1.1	-1.9	1.5	-2.0
June	0.6	-9.5	1.8	-23.4	1.3	-12.0	1.2	-0.2	1.4	0.8
July	0.7	-14.3	1.8	-17.3	1.4	-16.9	1.3	8.2	1.5	-9.7
Aug.	0.6	-22.0	1.8	-15.0	1.3	-15.0	1.3	5.1	1.3	-7.0
Sept.	0.7	-14.1	2.0	-10.3	1.4	-13.3	1.3	14.0	1.4	-11.8
Oct.	0.6	-11.4	2.2	1.0	1.5	-10.0	1.5	10.2	1.5	-3.6
Nov.	0.6	-17.3	2.1	-9.0	1.5	-5.8	1.4	3.8	1.7	6.7
Dec.	0.7	-4.0	2.4	3.6	1.5	-6.9	1.6	10.2	1.6	1.8
Sources	"Trade Statistics of Japan", Ministry of Finance									