



BANK OF JAPAN

Services Producer Price Index for Railway freight transportation



Bank of Japan
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*The views expressed in the slides are those of the author and do not necessarily represent the position of the Bank of Japan. All the examples are hypothetical.

Price surveys procedure

II-1 Surveyed “Item” selection

II-2 Preparatory work for initialization

II-3 Survey respondents initialization

I-4 Tentative price collection and follow-ups

I-5 Ongoing price surveys

We will focus on II-2 and II-3 in the following slides.



Topics

1

Service definition

2

Weight calculations

3

Price determining characteristics

4

Sample design

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Pricing methods

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Quality adjustments

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2015 rebasing project of this price index

8

Index developments



1. Service definition

- The railway freight transportation is defined in JSIC 421 Railway transport. JSIC 421 Railway transport corresponds to ISIC 4912 Freight rail transport.
- ISIC 4912 Freight rail transport
This class includes freight transport on mainline rail networks as well as short-line freight railroads.



2.Weight

■ Main data source

- The "Input-Output Tables" of Japan

Item	Main data source: IO-Tables code
Railway freight transportation	5712-011 Railway freight transportation

■ Market size and weight at the year 2015

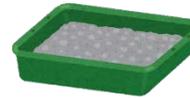
Item	Market size	Weight
Railway freight transportation	122billion yen	0.9/1000



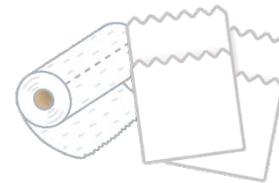
3. Price determining characteristics

- Nature and weight of cargo

- Cement & related products



- Paper & related products



- Food products



- Agricultural products



- Type of vehicle

- Car-load services : freight transport with chartered trains



- Container services: railway freight transport on containers



3. Price determining characteristics

- Distance and route of transportation
- Name and status of the customer
High volume customer or not
- Name and status of the provider
High volume provider or not



4. Sample design: three steps

(1) Specify main price determining characteristics

We usually estimate the market share in “Type of cargo” and “Service providers” by using other statistics and/or approximate information from Industrial organizations.

- Type of cargo (Y axis)
 - Cement & related products
 - Agriculture products
 - Paper & related products
- Services providers (X axis)

		Services providers			
		A inc. 40 %	B inc. 20%	C inc. 15%	Others 25%
Type of cargo	Cement and related products 40%				
	Agriculture products 30%				
	Paper and related products 20%				
	Others 5%				

(Note) This chart is hypothetical.

Names of respondents and number of sample prices are strictly kept confidential.



4. Sample design: three steps

(2) Determine Number of sample prices

- Number of sample prices is dependent on how big this service market is and how different price movements are in each service.
- Number of sample prices is set 10 for this example.

		Services providers			
		A inc. 40 %	B inc. 20%	C inc. 15%	Others 25%
Type of cargo	Cement and related products 40%	● ●	●	●	
	Agriculture products 30%	●	● ●		
	Paper and related products 20%	●		●	
	Others 5%	●			

(Note) This chart is hypothetical.

Names of respondents and number of sample prices are strictly kept confidential.



4. Sample design : three steps

(3) Specify survey respondents candidates

- A.inc, B.inc, and, C.inc are regarded as the respondents candidates.

		Services providers			
		A inc. 40 %	B inc. 20%	C inc. 15%	Others 25%
Type of cargo	Cement and related products 40%	● ●	●	●	
	Agriculture products 30%	●	● ●		
	Paper and related products 20%	●		●	
	Others 5%	●			

(Note) This chart is hypothetical.

Names of respondents and number of sample prices are strictly kept confidential.



II-3 Survey respondents initialization

II-3-1 Contact right people

II-3-2 Specify representative transactions

II-3-3 Select pricing methods (see section 3)

II-4-1 Collect tentative price data

II-4-2 Follow up tentative price collection

We will focus on II-3-2 and II-3-3 in the following slides.



5. Pricing methods

- At an initialization meeting prior to the start of the survey, we ask respondents the following questions.
 - Representative transactions
 - Pricing mechanism
 - Price determining characteristics
- When we specify one representative transaction
 - “Direct use of repeated transactions”
- When we can not specify only one representative transaction
 - “Unit value method”

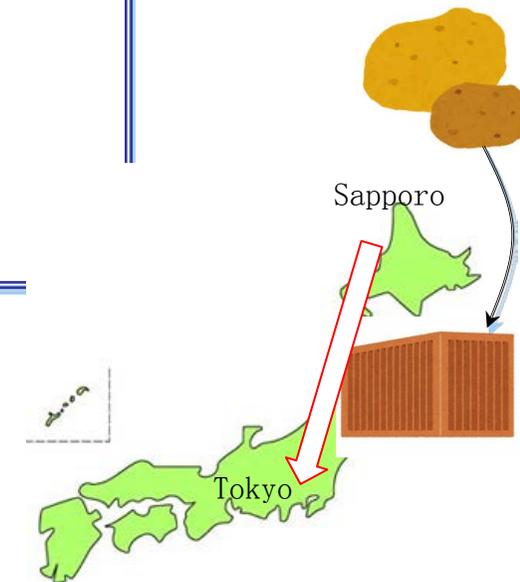


5-1 Direct use of repeated transactions

- When we specify one representative transaction, prices of “Direct use of repeated transactions” are surveyed.

Type of cargo	: Potatoes
Type of services	: Container service
Departure	: Sapporo
Destination	: Tokyo
Customer	: X1 inc.
Provider	: A train services
Unit	: Per container

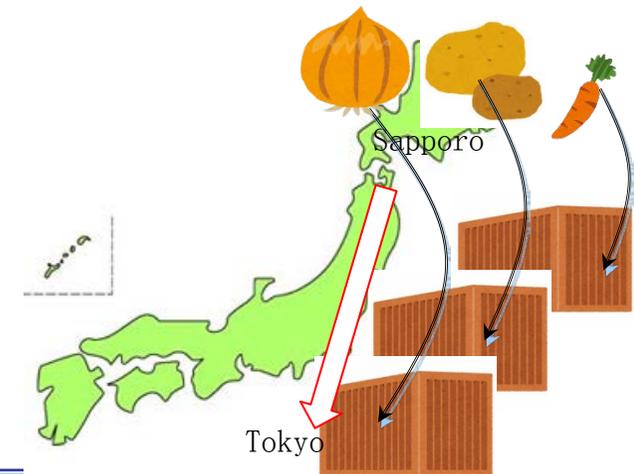
→ Freight price per container is surveyed.



5-2 Unit value method

- When we can not specify only one representative services, we apply unit value method.
- Multiple transactions for similar services with different quality are grouped to calculate prices, within the limit where the condition of constant quality is guaranteed.

Type of cargo	: <u>Vegetables</u>
Type of services	: Container service
Departure	: Sapporo
Destination	: Tokyo
Customer	: X2.inc and X3.inc
Provider	: B train services
Unit	: Per container



→ Averaged freight price per container is surveyed.



6. Quality adjustment

- Ideally, quality adjustments for the following quality changes of the services due to technical improvements should be implemented.
 - Shorter delivery time
 - Better temperature control

- However, the BOJ does not quality-adjust, since adequate information is currently not available.

- How about in your country?



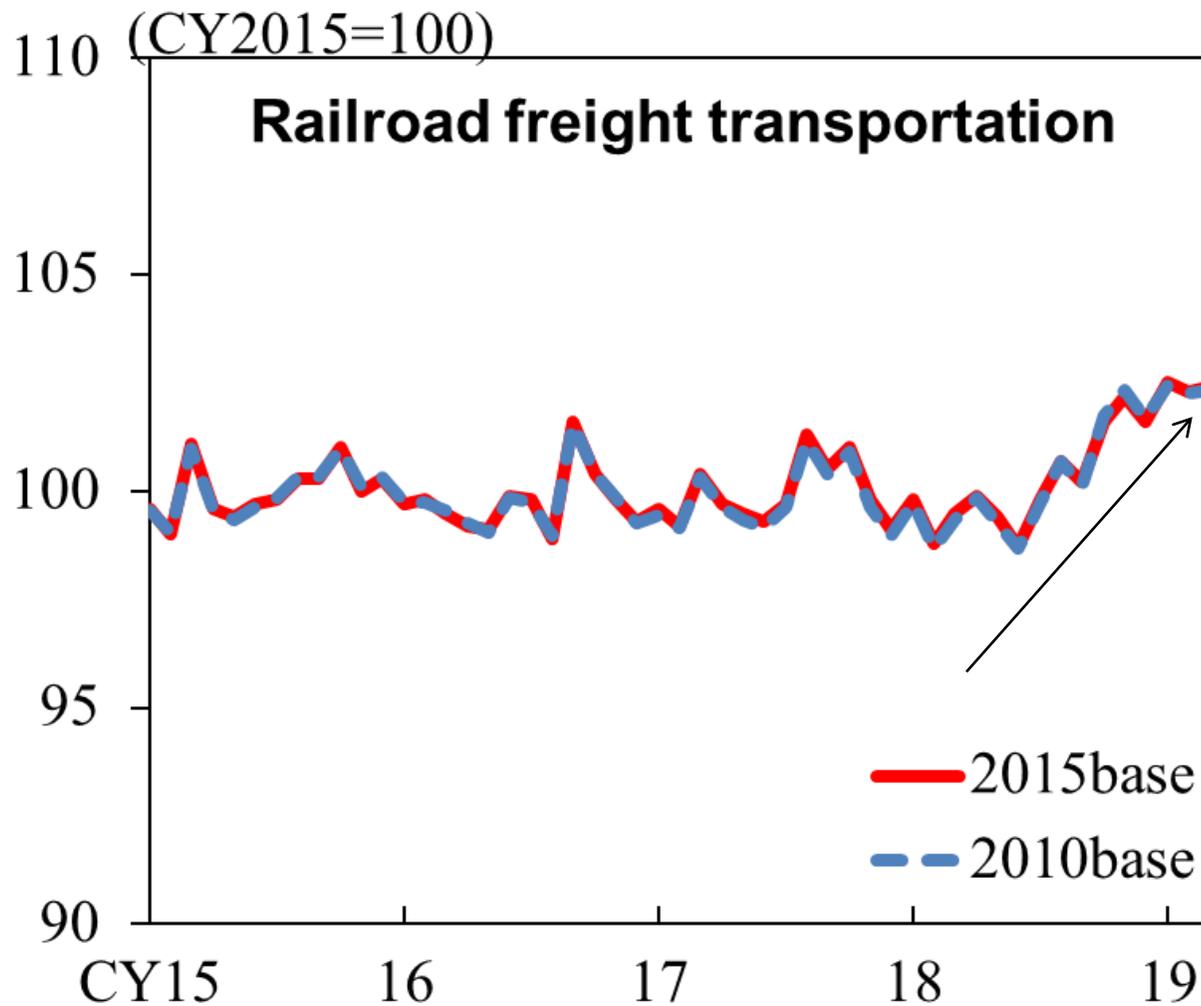
7.Rebasing

- We rebased this index from the 2010 base to the 2015 base.

- In rebasing project, we did the following things.
 - Revised existing Items
 - Updated sample design to reflect the current market situation
 - Improved the Unit value calculation



8. Index developments



Recently railway freight transportation prices have increased, due to increased demand of this service. Supply of truck freight transportation has decreased due to a shortage of labor.

(Note) For comparison, the 2010 base indexes in CY 2015 are set as 100.



謝謝 ! Thank you for your attention!



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