



BANK OF JAPAN



# Japan's Data Collection System for Trade in Services

*- Use of ITRS and dealing with ITRS threshold -*

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## Data Source for Japan's trade in services

Primary source data for Japan's trade in services is ITRS, supplemented by various source data.

Most of the source data are collected under Foreign Exchange and Foreign Trade Act (hereafter, the Act), and pursuant to relevant ministerial ordinance

Data sources for Japan's TIS;

ITRS <Report on payments and receipts >

Surveys for specific business based on the Act

Other data sources

# Legal framework

## Foreign Exchange and Foreign Trade Act (The Act)

- Regulates the overall foreign exchange and cross-border transaction. The regulations have been gradually liberalized.
- Requires MOF to compile BOP and IIP data, and to report them to the Cabinet.
- Enables MOF to entrust the compilation work to the BOJ.

### Article 55-9 :

The Minister of Finance shall, as prescribed by a cabinet order, compile the statistics on international investment position and on balance of international payments, and report them to the Cabinet periodically.

### Article 69 :

The competent Minister may, as prescribed by a cabinet order, entrust the Bank of Japan with a part of the affairs concerning the enforcement of this Act.

# Overview of data sources for Japan's trade in services

*Reports based on the Act and relevant ministerial ordinance*

Primary data source for external statistics :  
*Report on Payments and Receipts <ITRS>*

Surveys for major financial institutions  
(transactions reporters in the survey are exempted to report through ITRS)

Surveys for financial transaction  
(no exemption for reporting ITRS)

Survey designed for statistical purposes  
(no exemption for reporting ITRS)

Survey stipulated  
in the ministerial  
ordinance

Survey ordered by written notification of the MOF

*Other data sources*

personal and household  
survey on travel

administrative source  
(number of travelers, etc.)

data purchased from  
private data source

other data sources

# Overview of data sources for Japan's trade in services

Trade in service item	Source data	
	credit	debit
Transport		
Sea transport	International transportation survey, <b>ITRS</b>	International transportation survey, <b>ITRS</b> , trade statistics, other source
Air transport	International transportation survey, <b>ITRS</b>	International transportation survey, <b>ITRS</b> , trade statistics, other source
Other	<b>ITRS</b>	<b>ITRS</b>
Travel	Boarder survey, administrative source, <b>ITRS</b> , other sources	Household survey, administrative source, <b>ITRS</b> , other sources
Manufacturing services on physical inputs owned by others	<b>ITRS</b>	<b>ITRS</b>
Maintenance and repair services n.i.e.	<b>ITRS</b> , International transportation survey	<b>ITRS</b> , International transportation survey

# Overview of data sources for Japan's trade in services

Trade in service item	Source data	
	credit	debit
Construction	ITRS	ITRS
Insurance and pension services	ITRS, survey on freight insurance, other source	ITRS, survey on freight insurance, trade statistics, other source
Financial services	Surveys for financial institutions, ITRS, survey on issuance and offering of securities, other sources	Surveys for financial institutions, ITRS, survey on issuance and offering of securities, other sources
Charges for the use of intellectual property n.i.e.	ITRS	ITRS
Telecommunications, computer, and information services	ITRS	ITRS
Other business services	ITRS	ITRS
Personal, cultural, and recreational services	ITRS	ITRS
Government goods and services n.i.e.	ITRS, administrative source, International transportation survey	ITRS, administrative source, International transportation survey

# Japan's ITRS – outline –

## Reporter:

- All residents who made cross-boarder transactions above threshold, regardless of whether they are or not settled through the resident banking system
  - There are some exemptions from reporting requirement, that are specified in the ministerial ordinance.
- Banks can report on behalf of their customers, but transactors are responsible to report

## Threshold:

- In principle, 30 million JPY or the equivalent in foreign currency per transaction

## Penalties against failure to respond and false reports:

- Fine of at most 500 thousands yen or up to 6 months' of imprisonment

# Japan's ITRS – advantage –

## Four reporting forms for "Report on payments and receipts"

	Transaction settled through resident banking system	Transactions settled not through the resident banking system
Report on individual settlement	<b>Annexed form 3</b> – Submit through resident banks or MTOs who settled the transaction	<b>Annexed form 1</b> – Submit directly to Bank of Japan
Report on monthly aggregate basis	<b>Annexed form 4</b> – Submit through resident banks or MTOs who settled the transaction	<b>Annexed form 2</b> – Submit directly to Bank of Japan

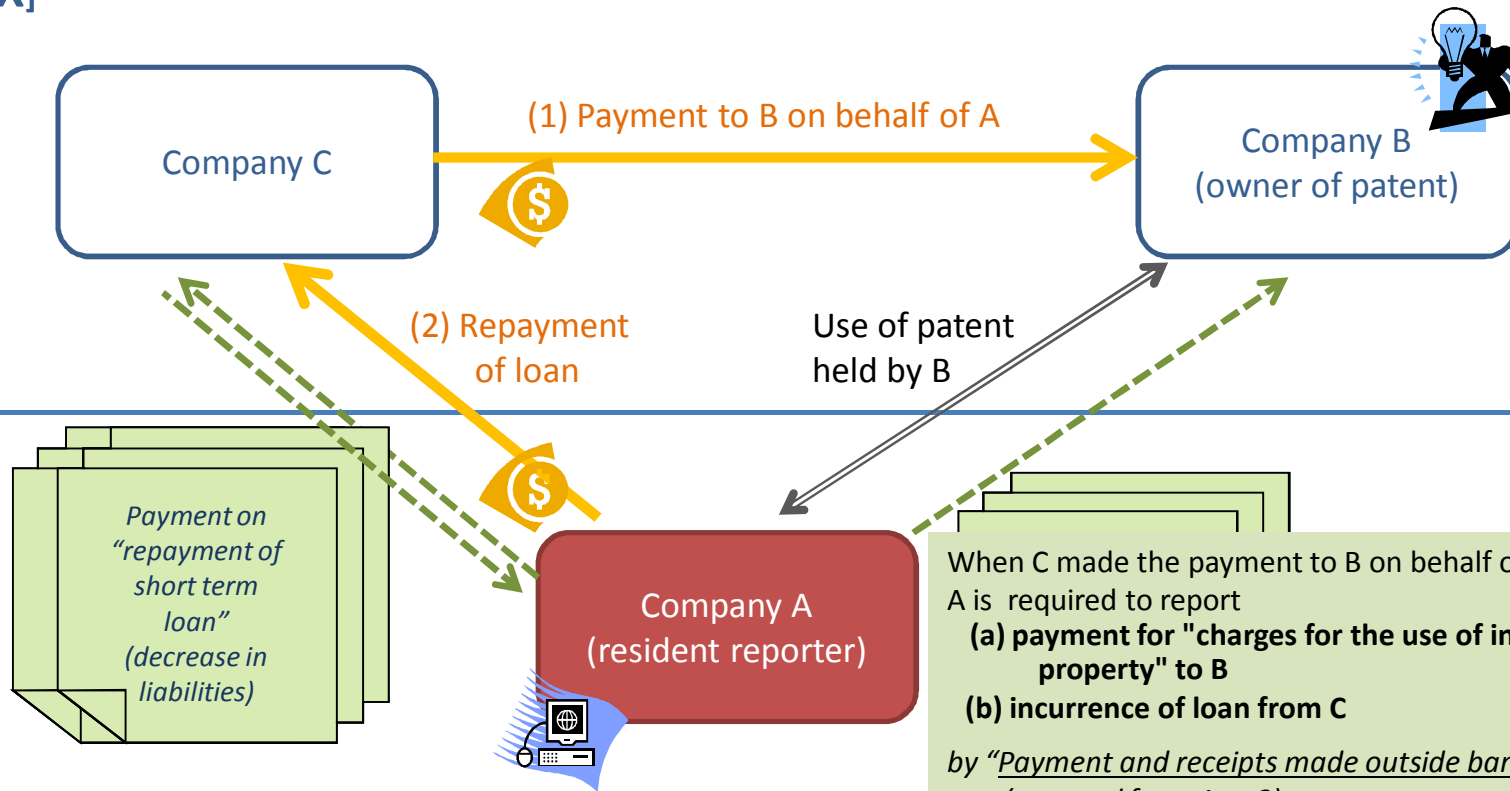
Transactions that do not involve cash movement, e.g. offsetting gross credit and debit transactions, netting arrangements, are required to report in the original claims and liabilities on gross basis.



# Japan's ITRS – advantage –

## Example of transactions settled not through the resident banking system

[Country X]



[Japan]

When C made the payment to B on behalf of A, A is required to report

- (a) payment for "charges for the use of intellectual property" to B
- (b) incurrence of loan from C

by "Payment and receipts made outside banks and MTOs" (annexed form 1 or 2)

When A repaid to C, A is required to report

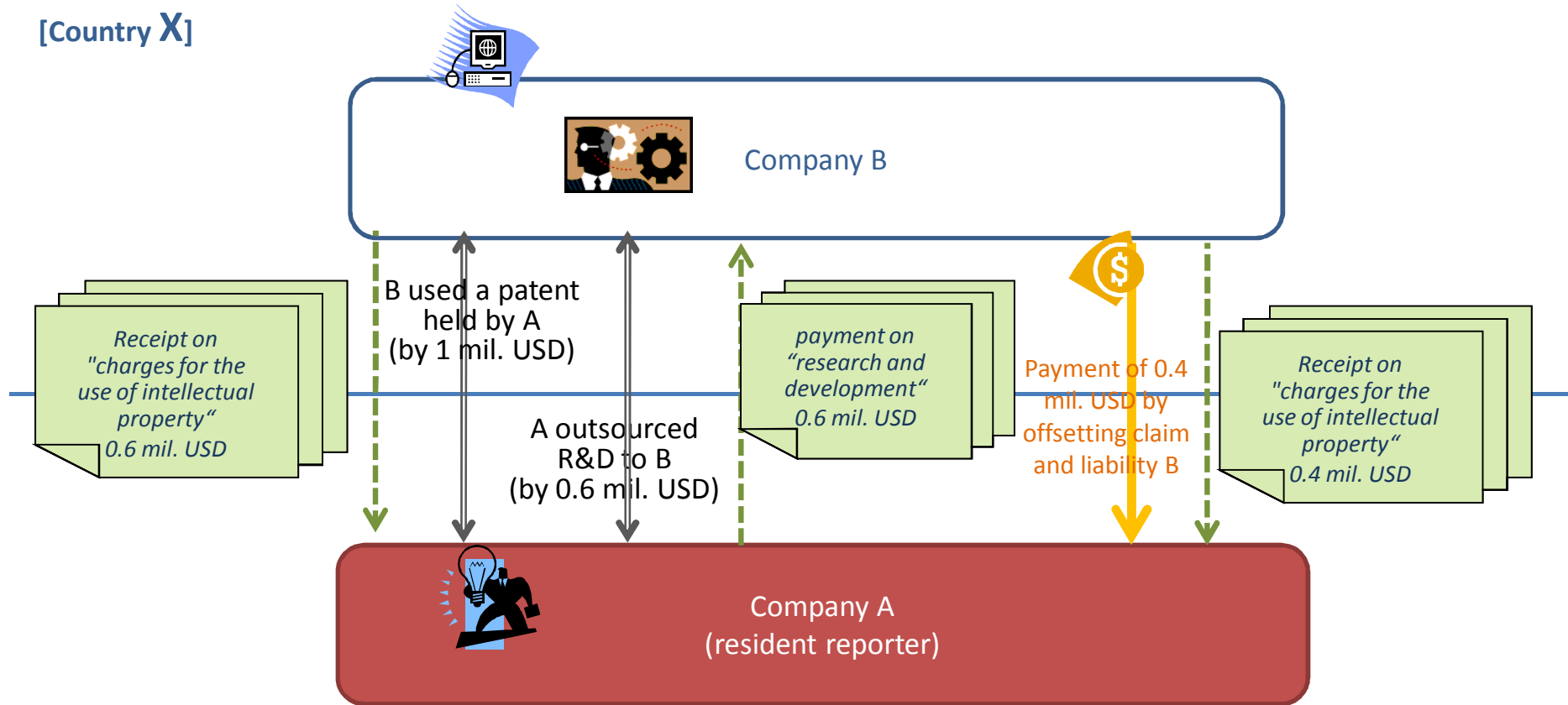
- (c) repayment of loan to C

by "Payment and receipts made through banks and MTOs" (annexed form 3 or 4)

# Japan's ITRS – advantage –

## Example of transactions settled not through the resident banking system

[Country X]



[Japan]

When A received 0.6 million USD for the settlement of claim and liability, A report

- receipt of 0.4 million USD for "charges for the use of intellectual property" from B by "Payment and receipts made through banks and MTOs" (annexed form 3 or 4)
- payment of 0.6 million USD for "research and development" to B
- receipt of 0.6 million USD for "charges for the use of intellectual property" from B by "Payment and receipts made outside banks and MTOs" (annexed form 1 or 2)

# (Reference) Balance of Payments classification code used for Japan's ITRS

code	Purpose of payments/receipts	code	Purpose of payments/receipts	code	Purpose of payments/receipts	code	Purpose of payments/receipts
<b>Goods related service</b>		<b>Travel</b>		<b>Insurance</b>		<b>Other service</b>	
077	Expenses for trade-related service (exclude price adjustment expenses)	112	Settlement of credit card uses	311	Cargo insurance premiums	411	Telecommunications services
081	Fees for processing (involving re-import/re-export of processed goods)	113	Travel expenses (payables between travel agencies), expenses for international students (for more than one year)	312	Cargo insurance claims	421	Construction services
082	Fees for processing (do not involve re-import/re-export of processed goods)	114	Travel expenses (payables not between travel agencies), expenses for international students (for less than one year)	313	Non-life insurance premiums	431	Fees for financial service (exclude fees for issuance and offering of securities)
091	Maintenance and repair of movable property			314	Non-life insurance claims	432	Fees for issuance and offering of securities
				315	Premiums on life insurance and annuity	441	Computer services
				316	Life insurance claims and annuities	442	Information services
				317	Reinsurance premiums	451	Charges for the use of intellectual property (exclude fees for copy right)
<b>Transport service (for enterprise who report international transport survey)</b>		<b>Transport service (for those do not report international transport survey)</b>		318	Reinsurance claims	452	Fees for copy rights
211	Sea freight transport	221	Sea freight transport	319	Fees for auxiliary insurance services	453	Fees for use of mineral rights
212	Air freight transport	222	Air freight transport			461	Operational leasing services (exclude financial leases)
213	Passenger fare on sea transport	223	Passenger fare on sea transport	<b>Sale/purchase intellectual property</b>		462	Advertising, public relations, and market research services
214	Passenger fare on air transport	224	Passenger fare on air transport	720	Sale/purchase of industrial property	463	Legal, accounting, and auditing service
215	Sale/purchase of fuels, provisions, and other goods at ports	225	Freight other than marine and air transports (e.g., pipeline)	721	Sale/purchase of copy rights for computer softwares	464	Research and development services
216	Rental or charter of vesseles	226	Passenger fare on transport other than sea and air	722	Sale/purchase of copy rights other than computer softwares	468	Other professional services
217	Rental or charter of aircrafts	227	Sale/purchase of fuels, provisions, and other goods at ports	723	Sale/purchase of other rights	469	Expenses for local offices (exclude expense related to construction site offices)
218	Expenses related to sea transport	228	Rental or charter of vesseles (leased with a crew)			471	Cultural and educational services
219	Expenses related to air transport	229	Rental or charter of vesseles (leased without a crew)			472	Audiovisual and related services
		230	Rental or charter of aircrafts (leased with a crew)			481	Expense related government agencies and international organizations
		231	Rental or charter of aircrafts (leased without a crew)				
		232	Other expenses related to sea transport				
		233	Other expenses related to air transport				
		234	Other transportation services (do not correspond to other codes)				

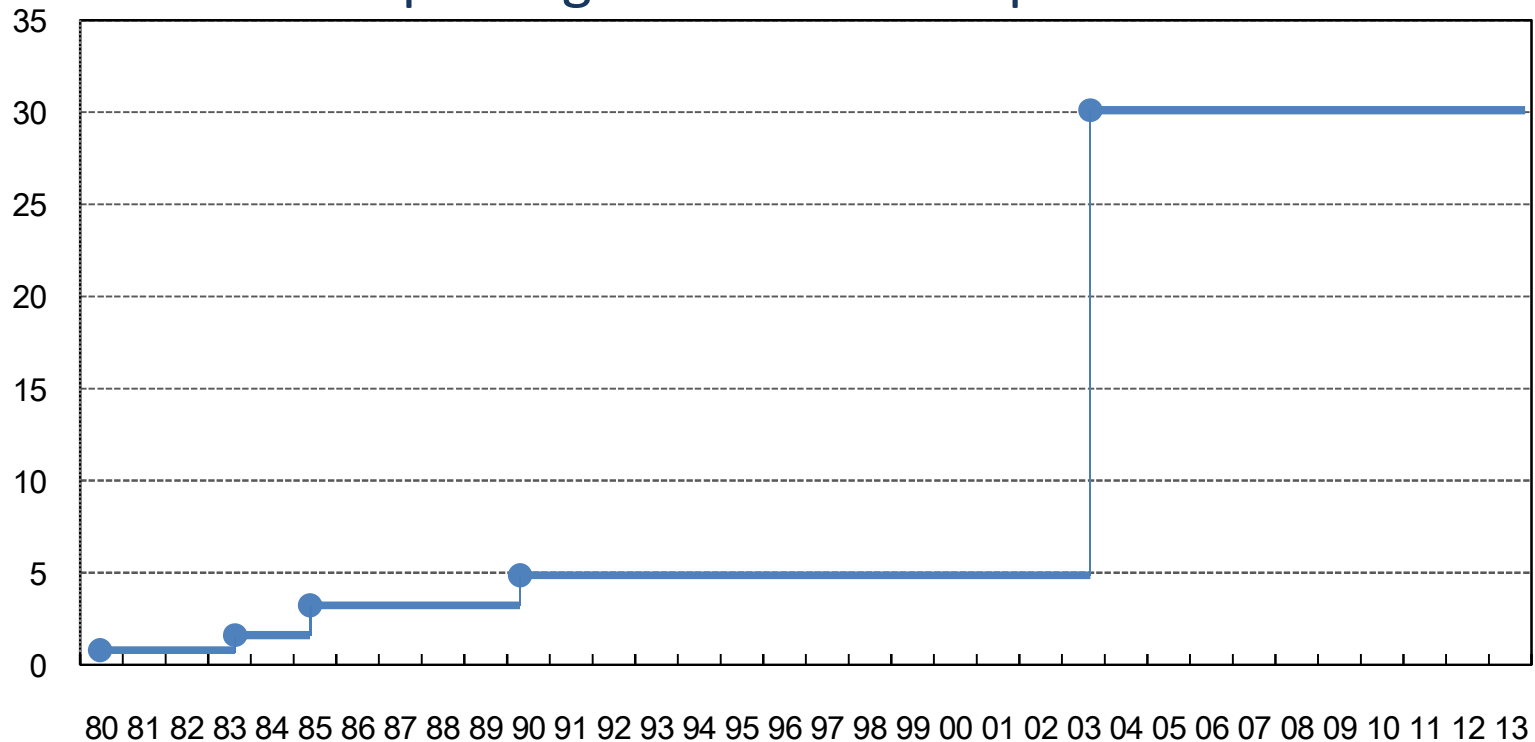
(note) The above BOP classification code will be applied after January 2014 transaction, along with implementation of BPM6.

## Japan's ITRS – disadvantage –

- One of the disadvantages of ITR is an under coverage of small-value transactions due to an existence of reporting threshold.
- For the case of Japan's ITRS, along with a series of deregulation, a reporting threshold has been lifted several times.
- Current threshold is 30 million JPY, approximately 300 thousand USD, which was raised from 5 million yen in April 2003.

# Japan's ITRS – disadvantage –

## Reporting threshold for Japan's ITRS



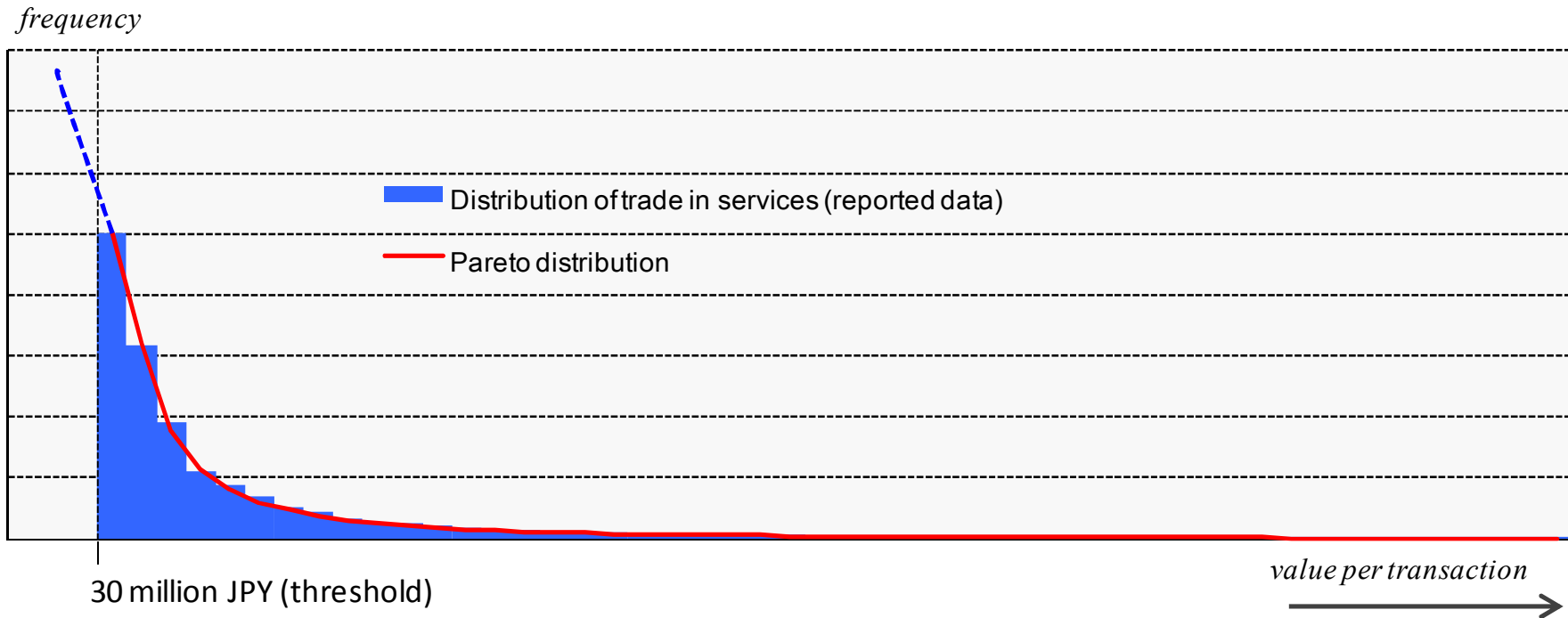
➤ Such a high threshold can damage quality of data.

→ Data before the threshold was raised indicate that there are considerable number of small-value transactions.

To capture small-value transactions below the threshold, Japan will employ a statistical model starting from 2014, together with implementation of BPM6.



# Distribution of data reported under ITRS

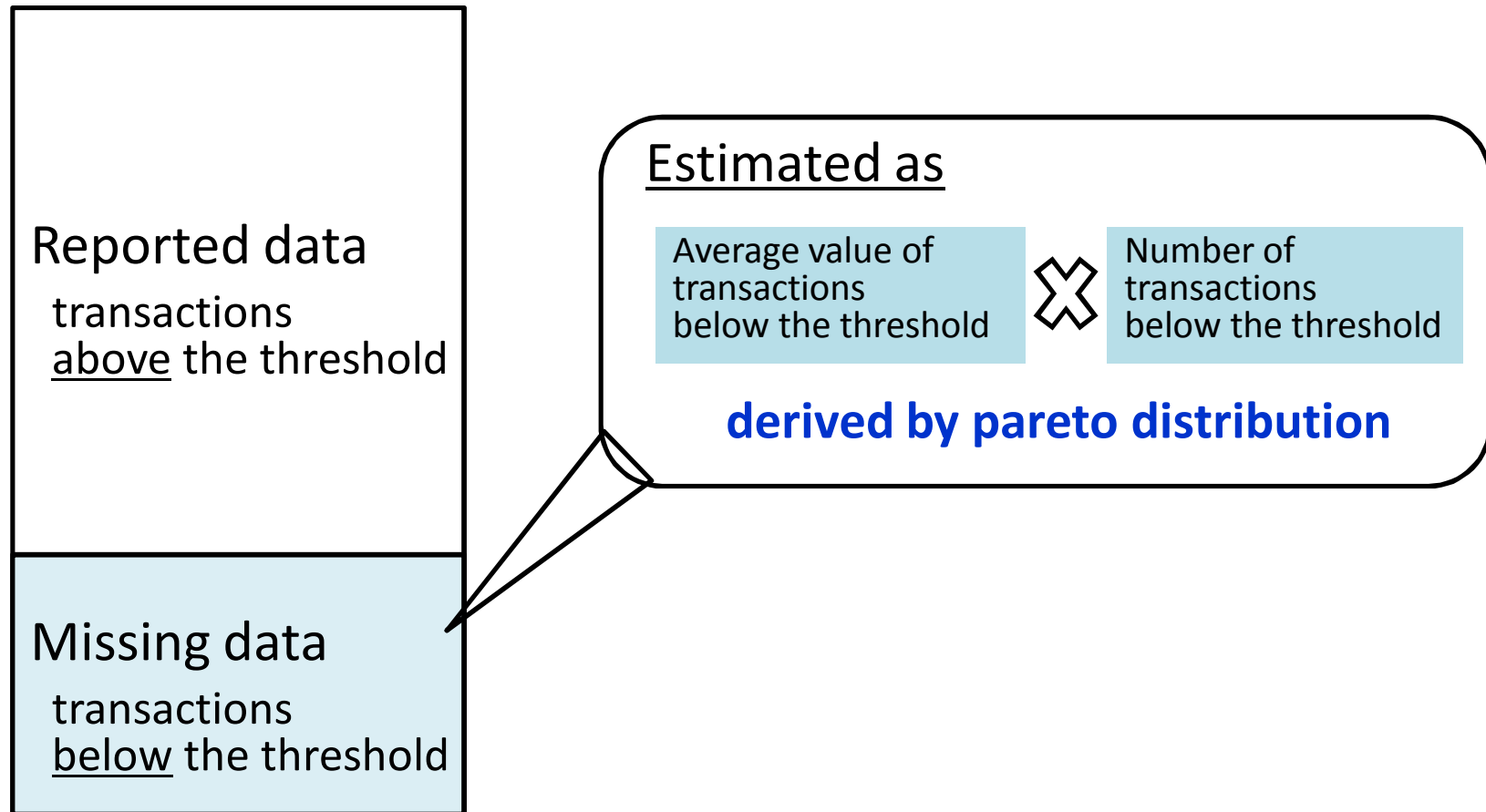


Reported data suggest that the number of service transactions increase exponentially as transaction value becomes smaller.

→ Statistically, Pareto distribution fits well to the data.

# Capturing small-value transactions

## Outline of Japan's approach



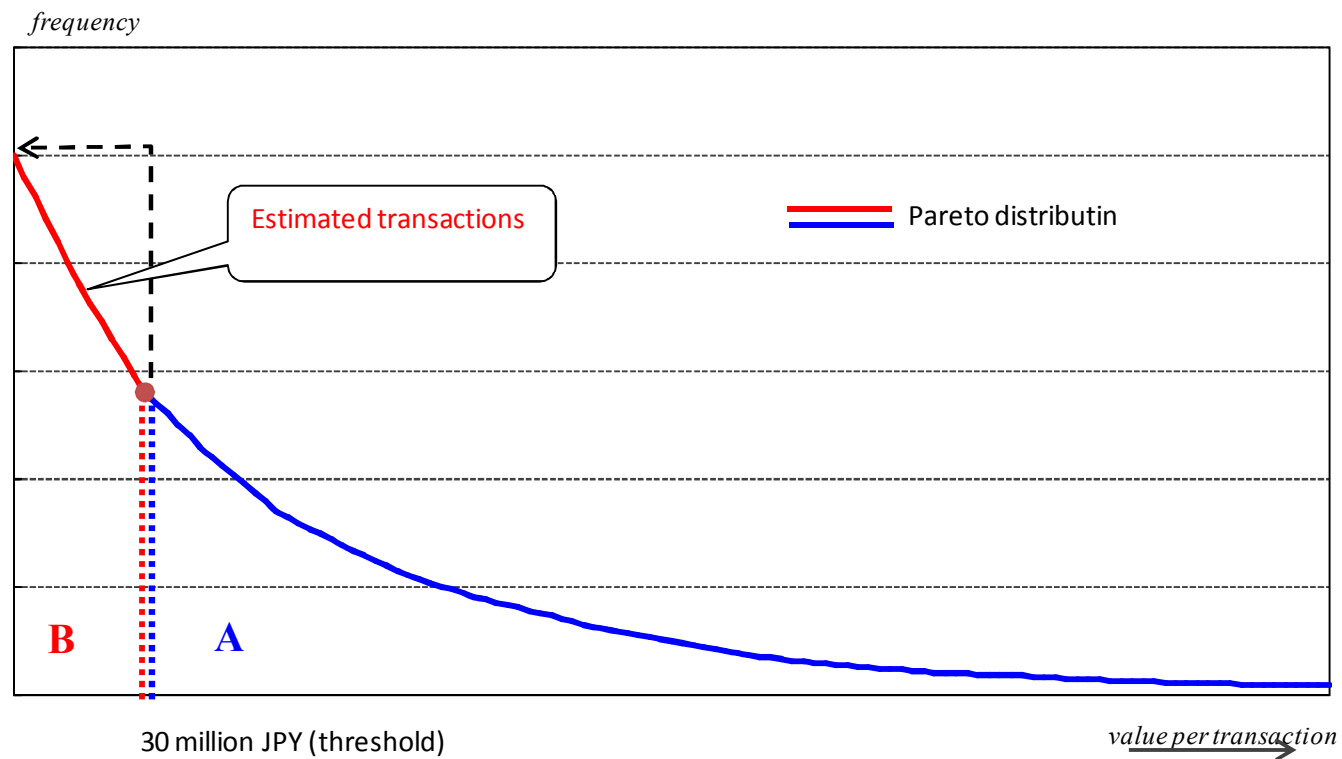


# Capturing small-value transactions

Step 1. Estimate the number of transactions below the threshold .

$$\text{Number of transactions below the threshold} = \text{Number of reported transactions (above the threshold)} \times \frac{\text{Probability B}}{\text{Probability A}}$$

“Probability A” and “Probability B” are derived from pareto distribution.



# Capturing small-value transactions

Step 2. Estimate an average value of transactions below the threshold.

The average value is derived from “pareto distribution”.

Step 3. Finally, calculate total value of transactions below the threshold.

$$\begin{array}{|c|} \hline \text{Total value of} \\ \text{transactions} \\ \text{below the threshold} \\ \hline \end{array} = \begin{array}{|c|} \hline \text{Average value of} \\ \text{transactions} \\ \text{below the threshold} \\ \hline \end{array} \times \begin{array}{|c|} \hline \text{Number of} \\ \text{transactions} \\ \text{below the threshold} \\ \hline \end{array}$$



# Capturing small-value transactions

## Reported value <A>

Total value of transactions  
above  
the threshold

## Missing value <B>

Total value of transactions  
below  
the threshold

$$\text{Complement ratio}^* = \frac{\text{Reported value } \langle A \rangle + \text{Missing value } \langle B \rangle}{\text{Reported value } \langle A \rangle}$$

\* derived by item on annual basis

$$\text{Monthly TIS by item} = \text{Monthly reported value} \times \text{Complement ratio}$$

The estimation is made separately by BOP classification code, and by credit/debit.

# Advantages of Japan's approach

Advantages in Japan's approach;

- Ratio can be updated periodically with recent data
  - Structural changes and price changes caused with the passage of time can be captured.
- Distribution fitting will be assessed on a frequent basis
  - Statisticians are able to choose other statistical approach when the implemented method does not fit well.



Thank you!!