

Variance Evaluation for the Financial Statements Statistics of Corporations by Industry (Excluding Finance and Insurance)

1. Sample design of the Financial Statements Statistics of Corporations by Industry

The stratified sampling method is used for the Financial Statements of Corporation by Industry in which enterprises are stratified into seven strata based on the amount of paid-up capital and then these strata are further classified into 45 groups by industry. The specific sampling methods are described below:

Company Size	Amount of paid-up capital	Sampling method
Small- and Medium-sized enterprises	Under 10 million yen	Systematic sampling with equal probability
	10 million yen up to 20 million yen	Systematic sampling with equal probability
	20 million yen up to 50 million yen	Systematic sampling with equal probability
	50 million yen up to 100 million yen	Systematic sampling with equal probability
Moderately large enterprises	100 million yen up to 500 million yen	Systematic sampling with equal probability
Large enterprises	500 million yen up to 1 billion yen	Complete enumeration
	1 billion yen or more	Complete enumeration

2. Computational method of Standard error ratio

The following symbols are used in formulas for Standard errors.

N : Population size

y_i : Value of the i -th sample enterprise

n : Sample size

\bar{y} : Sample mean = $\frac{1}{n} \sum_{i=1}^n y_i$

$$\text{Standard error} = \left\{ N^2 \frac{n-1}{n-1} \frac{N-1}{n-1} \sum_{i=1}^n (y_i - \bar{y})^2 \right\}^{1/2}, \quad \text{Standard error ratio} = \frac{\text{Standard error}}{N\bar{y}}$$

3. Standard error ratio

(unit: %)

FY2019	Total assets	Sales	Investment in P&E
All Industries	1.3	1.2	2.3
Manufacturing	0.9	1.1	1.9
Non-manufacturing	1.7	1.6	3.3

(Note) 1. Investment in P&E includes investment in software.

2. All Industries and Non-Manufacturing don't include Finance and Insurance.

Variance Evaluation for the Financial Statements Statistics of Corporations by Industry (Finance and Insurance)

1. Sample design for the Financial Statements of Corporations by Industry

The stratified sampling method is used for the Financial Statements of Corporation by Industry in which enterprises are stratified into four strata based on the amount of paid-up capital and then these strata are further classified into 11 groups by industry. The specific sampling methods are described below:

Company size	Amount of paid-up capital	Sampling method
Small and medium-sized enterprises	Under 10 million yen	Systematic sampling with equal probability
	10 million yen up to 100 million yen	Systematic sampling with equal probability
Moderately large enterprises	100 million yen up to 1 billion yen	Complete enumeration
Large enterprises	1 billion yen or more	Complete enumeration

2. Computational method of Standard error ratio

The following symbols are used in formulas for Standard errors.

N : Population size

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\bar{y} : Sample mean = $\frac{1}{n} \sum_{i=1}^n y_i$

$$\text{Standard error} = \left\{ N^2 \frac{n-1}{n-1} \sum_{i=1}^n (y_i - \bar{y})^2 \right\}^{1/2}, \text{ Standard error ratio} = \frac{\text{Standard error}}{N\bar{y}}$$

3. Standard error ratio

(unit: %)

FY2019	Total assets	Investment in P&E
Finance and Insurance	1.3	2.5

(Note) Investment in P&E includes investment in software.