

産業別・従業者規模別の達成精度

本調査の達成精度は、売上高の標準誤差率による。

売上高の標準誤差率（産業別・従業者規模別）

産業別・従業者規模別			売上高			産業別・従業者規模別			売上高		
			総和（千円）	標準誤差	標準誤差率				総和（千円）	標準誤差	標準誤差率
建設業	法人企業	5人以下	12,477,741,720	761,942,042	0.06	不動産， 物品賃貸業	法人企業	5人以下	7,612,064,032	605,260,099	0.08
		6～20人	20,659,532,101	1,044,060,343	0.05			6～20人	3,055,685,614	140,348,923	0.05
		21～50人	11,947,391,309	637,066,699	0.05			21～50人	2,310,224,514	147,131,784	0.06
		51人以上	11,829,685,047	963,443,072	0.08			51人以上	4,520,428,057	397,087,156	0.09
		個人企業	2,868,156,121	223,835,593	0.08			個人企業	1,313,348,185	63,377,778	0.05
製造業	法人企業	5人以下	5,642,798,716	223,218,804	0.04	学術研 究，専 門・技術 サービス 業	法人企業	5人以下	1,757,222,912	101,612,308	0.06
		6～20人	14,885,141,040	621,028,265	0.04			6～20人	2,128,484,087	89,801,620	0.04
		21～50人	16,821,475,673	567,399,551	0.03			21～50人	1,567,902,808	84,927,107	0.05
		51人以上	54,771,637,417	2,614,704,561	0.05			51人以上	2,479,085,059	106,169,935	0.04
		個人企業	1,653,122,143	86,691,776	0.05			個人企業	2,054,401,834	82,187,780	0.04
情報通信業	法人企業	5人以下	858,919,811	82,447,361	0.10	宿泊業， 飲食サー ビス業	法人企業	5人以下	1,470,413,053	144,134,669	0.10
		6～20人	1,287,776,032	45,841,415	0.04			6～20人	2,131,895,702	104,876,080	0.05
		21～50人	1,694,632,604	57,387,058	0.03			21～50人	1,764,988,588	118,045,665	0.07
		51人以上	4,537,151,645	237,549,814	0.05			51人以上	3,130,570,494	182,227,411	0.06
		個人企業	43,410,401	1,802,779	0.04			個人企業	4,790,763,345	351,797,757	0.07
運輸業， 郵便業	法人企業	5人以下	1,110,924,156	87,686,659	0.08	生活関連 サービス 業，娯楽 業	法人企業	5人以下	2,032,246,882	288,845,913	0.14
		6～20人	2,922,447,813	84,717,023	0.03			6～20人	3,006,549,794	267,415,024	0.09
		21～50人	4,117,723,209	118,184,595	0.03			21～50人	3,880,662,287	317,686,283	0.08
		51人以上	10,274,099,577	599,295,063	0.06			51人以上	12,977,013,521	902,580,946	0.07
		個人企業	121,720,807	10,989,076	0.09			個人企業	1,614,294,611	73,148,163	0.05
卸売業	法人企業	5人以下	18,009,675,397	1,363,731,467	0.08	サービス 業（他に 分類され ないもの）	法人企業	5人以下	2,352,122,088	247,009,156	0.11
		6～20人	23,755,646,482	1,429,665,408	0.06			6～20人	3,123,384,018	207,988,703	0.07
		21～50人	18,881,207,121	923,585,296	0.05			21～50人	2,422,220,880	109,355,811	0.05
		51人以上	29,409,902,708	1,634,889,648	0.06			51人以上	4,617,132,421	223,574,642	0.05
		個人企業	1,490,436,077	95,873,476	0.06			個人企業	873,707,958	53,153,652	0.06
小売業	法人企業	5人以下	10,211,356,196	2,897,671,903	0.28						
		6～20人	12,954,221,519	893,066,055	0.07						
		21～50人	8,816,671,859	431,896,322	0.05						
		51人以上	17,969,034,714	659,467,622	0.04						
		個人企業	7,621,090,144	331,776,912	0.04						

（注）売上高の標準誤差率は、次の式により算出した。

$$\text{売上高の総和の推定値} : \hat{T}_x = \sum_{h=1}^L \frac{N_h}{n_h} \sum_{i=1}^{n_h} X_{hi}$$

$$\text{売上高の標準誤差の推定値} : \sqrt{\hat{V}(\hat{T}_x)} = \sqrt{\sum_{h=1}^L N_h (N_h - n_h) \frac{\text{Var}(X_h)}{n_h}}$$

$$\text{売上高の標準誤差率} : \frac{\sqrt{V(\hat{T}_x)}}{\hat{T}_x}$$

h = 層（産業中分類×従業者規模）

N_h = 第 h 層の母集団の大きさ

n_h = 第 h 層の標本数

\hat{T}_x = 売上高の総和の推定値

$\text{Var}(X_h)$ = 第 h 層内分散

$\sqrt{V(\hat{T}_x)}$ = 売上高の総和の標準誤差の推定値

$\frac{\sqrt{V(\hat{T}_x)}}{\hat{T}_x}$ = 売上高の総和の標準誤差率

Achievement Accuracy by Industrial Category and by Enterprise Size

The achievement accuracy of the Survey was based on the standard error ratio of sales.

Standard deviation of sales by industrial category and by enterprise size

Industrial category / enterprise size			Sales		
			Summation (thousand yen)	Standard error	Standard error ratio
Construction	Business corporations	5persons or fewer	12,477,741,720	761,942,042	0.06
		6-20persons	20,659,532,101	1,044,060,343	0.05
		21-50persons	11,947,391,309	637,066,699	0.05
		51persons or more	11,829,685,047	963,443,072	0.08
	Individual proprietorship		2,868,156,121	223,835,593	0.08
Manufacturing	Business corporations	5persons or fewer	5,642,798,716	223,218,804	0.04
		6-20persons	14,885,141,040	621,028,265	0.04
		21-50persons	16,821,475,673	567,399,551	0.03
		51persons or more	54,771,637,417	2,614,704,561	0.05
	Individual proprietorship		1,653,122,143	86,691,776	0.05
Information and telecommunications	Business corporations	5persons or fewer	858,919,811	82,447,361	0.10
		6-20persons	1,287,776,032	45,841,415	0.04
		21-50persons	1,694,632,604	57,387,058	0.03
		51persons or more	4,537,151,645	237,549,814	0.05
	Individual proprietorship		43,410,401	1,802,779	0.04
Transport and postal activities	Business corporations	5persons or fewer	1,110,924,156	87,686,659	0.08
		6-20persons	2,922,447,813	84,717,023	0.03
		21-50persons	4,117,723,209	118,184,595	0.03
		51persons or more	10,274,099,577	599,295,063	0.06
	Individual proprietorship		121,720,807	10,989,076	0.09
Wholesale	Business corporations	5persons or fewer	18,009,675,397	1,363,731,467	0.08
		6-20persons	23,755,646,482	1,429,665,408	0.06
		21-50persons	18,881,207,121	923,585,296	0.05
		51persons or more	29,409,902,708	1,634,889,648	0.06
	Individual proprietorship		1,490,436,077	95,873,476	0.06
Retail trade	Business corporations	5persons or fewer	10,211,356,196	2,897,671,903	0.28
		6-20persons	12,954,221,519	893,066,055	0.07
		21-50persons	8,816,671,859	431,896,322	0.05
		51persons or more	17,969,034,714	659,467,622	0.04
	Individual proprietorship		7,621,090,144	331,776,912	0.04
Real estate and goods rental and leasing	Business corporations	5persons or fewer	7,612,064,032	605,260,099	0.08
		6-20persons	3,055,685,614	140,348,923	0.05
		21-50persons	2,310,224,514	147,131,784	0.06
		51persons or more	4,520,428,057	397,087,156	0.09
	Individual proprietorship		1,313,348,185	63,377,778	0.05
Scientific research, professional and technical services	Business corporations	5persons or fewer	1,757,222,912	101,612,308	0.06
		6-20persons	2,128,484,087	89,801,620	0.04
		21-50persons	1,567,902,808	84,927,107	0.05
		51persons or more	2,479,085,059	106,169,935	0.04
	Individual proprietorship		2,054,401,834	82,187,780	0.04
Accommodations, eating and drinking services	Business corporations	5persons or fewer	1,470,413,053	144,134,669	0.10
		6-20persons	2,131,895,702	104,876,080	0.05
		21-50persons	1,764,988,588	118,045,665	0.07
		51persons or more	3,130,570,494	182,227,411	0.06
	Individual proprietorship		4,790,763,345	351,797,757	0.07
Living-related and personal services and amusement services	Business corporations	5persons or fewer	2,032,246,882	288,845,913	0.14
		6-20persons	3,006,549,794	267,415,024	0.09
		21-50persons	3,880,662,287	317,686,283	0.08
		51persons or more	12,977,013,521	902,580,946	0.07
	Individual proprietorship		1,614,294,611	73,148,163	0.05
Service, N.E.C.	Business corporations	5persons or fewer	2,352,122,088	247,009,156	0.11
		6-20persons	3,123,384,018	207,988,703	0.07
		21-50persons	2,422,220,880	109,355,811	0.05
		51persons or more	4,617,132,421	223,574,642	0.05
	Individual proprietorship		873,707,958	53,153,652	0.06

Note: The standard error ratio of sales was calculated using the following formula:

$$\text{Estimate of summation of sales : } \hat{T}_x = \sum_{h=1}^L \frac{N_h}{n_h} \sum_{i=1}^{n_h} X_{hi}$$

$$\text{Estimate of standard error of sales : } \sqrt{\hat{V}(\hat{T}_x)} = \sqrt{\sum_{h=1}^L N_h (N_h - n_h) \frac{\text{Var}(X_h)}{n_h}}$$

$$\text{Standard error ratio of sales : } \frac{\sqrt{V(\hat{T}_x)}}{\hat{T}_x}$$

h = stratum (industrial category and size categories)

N_h = number of populations for the stratum h

n_h = number of samples for the stratum h

\hat{T}_x = estimate of summation of sales

$\text{Var}(X_h)$ = variance in the stratum h

$\sqrt{V(\hat{T}_x)}$ = estimate of standard error of summation of sales

$\frac{\sqrt{V(\hat{T}_x)}}{\hat{T}_x}$ = standard error ratio of summation of sales