

KIET Manufacturing Business Survey Index (BSI) for the 4th Quarter 2019

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1. Overview

The overall composite Business Survey Index for the manufacturing sector in Q4 2019 remained under the baseline (100). However, all feeder indices excepting exports (90) have slightly increased compared to the previous quarter. Financial conditions (83) maintained levels recorded in Q3. BSI forecasts for the 1st quarter of 2020 indicate that manufactur-

ers anticipate an unfavorable business environment. Most indices for the manufacturing sector are forecast to be below the baseline; only inventory (100), facilities investment (100), employment (98), and ordinary profit (87) are expected to improve performance. On a year-on-year basis, the overall BSI outlook on business conditions does not look very promising, excepting facilities investment (101) and employment (100).

Table 1. Business Survey Indices for the Manufacturing Sector

	2019				2020	
	1/4	2/4	3/4	4/4	1/4	year-on-year
Business conditions	77 (83)	88 (98)	78 (90)	84 (87)	(86)	(90)
Sales	75 (85)	95 (102)	78 (96)	85 (88)	(86)	(94)
Domestic demand	75 (84)	92 (100)	80 (95)	86 (88)	(86)	(92)
Exports	88 (93)	96 (101)	92 (98)	90 (96)	(94)	(97)
Ordinary profit	78 (82)	88 (95)	78 (91)	85 (86)	(87)	(93)
Facilities investment	99 (95)	99 (101)	94 (98)	101 (94)	(100)	(101)
Operation ratio of facilities	87 (91)	94 (101)	85 (96)	90 (91)	(92)	(95)
Inventory	104 (101)	103 (101)	99 (101)	104 (98)	(100)	(99)
Employment	97 (95)	96 (100)	93 (98)	99 (94)	(98)	(100)
Financial condition	74 (83)	85 (91)	84 (87)	83 (86)	(85)	(90)

Note : 1) Figures in () represent outlooks.

2. Sales BSI and Outlook by Industry

In Q4 2019, sales indices in most industries improved compared to the previous quarter,

though many groups posted sub-baseline performances except for bio/health care industry (105) and new industries (101). Particularly, semiconductors (85), automobiles

Table 2. Sales BSI by Industry

	2019				2020	
	1/4	2/4	3/4	4/4	1/4	year-on-year
Overall	75 (85)	95 (102)	78 (96)	85 (88)	(86)	(94)
Electronics*	77 (91)	95 (112)	- (107)	- -	-	-
Semiconductors	79 (90)	95 (95)	73 (94)	85 (82)	(89)	(103)
Automobiles	69 (78)	92 (95)	74 (92)	87 (90)	(90)	(85)
Shipbuilding	88 (88)	110 (99)	84 (99)	86 (87)	(89)	(89)
General machinery	71 (86)	95 (104)	75 (89)	87 (83)	(88)	(90)
Steel	71 (77)	92 (101)	84 (89)	83 (93)	(83)	(87)
Chemicals	78 (86)	98 (103)	85 (102)	89 (88)	(93)	(97)
Electricity*	76 (79)	90 (106)	- (94)	- -	-	-
Precision machines*	83 (91)	103 (122)	- (107)	- -	-	-
Textiles	72 (91)	83 (100)	63 (87)	76 (86)	(80)	(86)
Nonmetallic minerals*	62 (74)	97 (107)	- (98)	- -	-	-
Displays**	- -	- -	78 -	73 (82)	(75)	(79)
Electronic products**	- -	- -	69 -	81 (78)	(83)	(94)
Wireless communication products**	- -	- -	92 -	89 (102)	(80)	(92)
Refined petroleum products**	- -	- -	80 -	90 (96)	(82)	(100)
Bio/Health care**	- -	- -	99 -	105 (105)	(107)	(106)
Secondary batteries**	- -	- -	81 -	89 (96)	(96)	(115)
ICT	78 (91)	95 (103)	77 (100)	83 (89)	(83)	(93)
Heavy-chemical industry	73 (81)	96 (102)	- (95)	- -	-	-
Light industry	81 (90)	90 (99)	- (94)	- -	-	-
Material industry	- -	- -	77 -	83 (89)	(85)	(91)
Machinery industry	- -	- -	76 -	87 (86)	(89)	(88)
New industries	- -	- -	95 -	101 (104)	(105)	(108)
Large companies	84 (91)	104 (110)	94 (101)	96 (100)	(97)	(95)
Small and medium-sized enterprises (SMEs)	74 (83)	92 (103)	77 (94)	85 (87)	(87)	(92)

Note : 1) Figures in () represent projections.

2) Due to reforms made to the survey panel and the reorganization of industries, direct quarterly comparisons of indices may not be statistically significant.

3) *represent industries surveyed prior to reforms, while ** represent industries surveyed following reforms to the survey methodology.

(87), general machinery (87), textiles (76), and electronic products (81) showed impressive growth, though performance in the steel (83), displays (73), and wireless communication products (89) industries was poor, as the figures demonstrate.

Similarly, the sales outlook for the next quarter predicts all groups will post sub-baseline figures, excepting bio/health care (107) and new industries (105). In particular, the steel, textiles, displays, and wireless communication products industries are not expected to emerge from their slumps, while on the positive side, the semiconductors, general machinery, chemicals and electronic products industries are all expected to record increases from the previous quarter. On a year-on-year basis, sales indices were overall not sanguine, but positive performances are anticipated in semiconductors (103), bio/health care (106), secondary batteries (115), and new industries (108).

3. Exports BSI and Outlook by Industry

The overall export indices for the 4th quarter were below the baseline (100), much as they were in the quarter previous. In particular, the refined petroleum products (103) and secondary battery (100) industries recorded the biggest increases, while shipbuilding (81) lagged among all groups.

The outlook for the 1st quarter of 2020 also suggests decent economic sentiment, as several industries are forecasted to post

above-baseline performances. However, the display (69) industry continues to slump, and some industries, including steel, textiles and wireless communication products, expect poor performance compared to the previous quarter. Yet, forecasts for shipbuilding (103), general machinery (103), chemicals (101), electronic products (106), wireless communication products (109), bio/health care (111), secondary battery (117), new industries (112) and SMEs (101) are optimistic on year-on-year basis, even as the prospects for automobiles, textiles, displays and refined petroleum products industries are gloomy.

4. Industrial Weather Chart for the 4th Quarter 2019

Overall, indices gauging sales, domestic demand, exports and ordinary profits in the manufacturing sector were comparatively low in Q4 2019. Specifically, the BSI for most manufacturing activities remained lower than 100, the baseline. However, indices measuring facilities investment and employment as a whole remained relatively steady. Specifically, the overall business and economic performance of bio/health care, secondary batteries and new industries were positive. Otherwise, the display, textiles and electronic products industries show relatively poor economic performance among all component industries of current manufacturing activity in this quarter.

Table 3. Exports BSI by Industry

	2019				2020	
	1/4	2/4	3/4	4/4	1/4	year-on-year
Overall	88 (93)	96 (103)	92 (98)	90 (96)	(94)	(97)
Electronics*	90 (97)	96 (116)	- (104)	- -	-	-
Semiconductors	80 (98)	88 (112)	93 (92)	96 (93)	(104)	(94)
Automobiles	84 (86)	98 (100)	90 (96)	92 (96)	(94)	(92)
Shipbuilding	90 (98)	106 (98)	101 (100)	81 (99)	(99)	(103)
General machinery	87 (95)	93 (106)	88 (91)	84 (91)	(93)	(103)
Steel	87 (92)	94 (102)	94 (91)	86 (99)	(88)	(94)
Chemicals	93 (90)	101 (102)	93 (104)	90 (95)	(100)	(101)
Electricity*	85 (90)	92 (100)	- (95)	- -	-	-
Precision machines*	86 (96)	96 (107)	- (103)	- -	-	-
Textiles	82 (98)	95 (106)	92 (93)	85 (97)	(86)	(91)
Nonmetallic minerals*	94 (98)	99 (100)	- (101)	- -	-	-
Displays**	- -	- -	84 -	67 (92)	(69)	(86)
Electronic products**	- -	- -	91 -	82 (91)	(95)	(106)
Wireless communication products**	- -	- -	97 -	93 (103)	(89)	(109)
Refined petroleum products**	- -	- -	89 -	103 (96)	(92)	(92)
Bio/Health care**	- -	- -	100 -	111 (103)	(109)	(111)
Secondary batteries**	- -	- -	86 -	100 (98)	(102)	(117)
ICT	85 (97)	91 (114)	92 (98)	85 (95)	(92)	(100)
Heavy-chemical industry	88 (92)	97 (102)	- (97)	- -	-	-
Light industry	91 (89)	96 (95)	- (98)	- -	-	-
Material industry**	- -	- -	93 -	88 (97)	(92)	(95)
Machinery industry**	- -	- -	91 -	86 (94)	(94)	(99)
New industry**	- -	- -	97 -	109 (102)	(108)	(112)
Large companies	87 (97)	102 (102)	99 (102)	93 (102)	(97)	(98)
Small and medium-sized enterprises (SMEs)	88 (92)	95 (103)	92 (96)	89 (95)	(94)	(101)

Note : 1) Figures in () represent projections.

2) Due to the reform of the survey panel and the reorganization of industries, direct quarterly comparisons of indices not be statistically significant.

3) * represent industries surveyed prior to reforms, while ** represent industries surveyed following reforms to the survey methodology.

5. Industrial Weather Forecast for the 1st Quarter 2020

Overall BSI prospects in Q1 2020 expect weak economic performance given the business cli-

mate chart of major index components. The display industry in particular is projected to continue its downward spiral, posting lows in sales (75), domestic demand (74), exports (69) and ordinary profit (77). Survey respondents

Table 4. Major Index Components of Current Manufacturing Activity

	Sales	Domestic Demand	Exports	Ordinary Profit	Facilities Investment	Employment
Overall	85 ☁	86 ☁	90 ☁	85 ☁	101 ☀	99 ☁
Semiconductors	85 ☁	86 ☁	96 ☁	86 ☁	103 ☀	98 ☁
Automobiles	87 ☁	87 ☁	92 ☁	85 ☁	98 ☁	94 ☁
Shipbuilding	86 ☁	89 ☁	81 ☁	83 ☁	96 ☁	93 ☁
General machinery	87 ☁	87 ☁	84 ☁	81 ☁	97 ☁	97 ☁
Steel	83 ☁	86 ☁	86 ☁	78 ☁	99 ☁	96 ☁
Chemicals	89 ☁	89 ☁	90 ☁	86 ☁	97 ☁	103 ☀
Textiles	76 ☁	77 ☁	85 ☁	78 ☁	90 ☁	91 ☁
Displays**	73 ☁	72 ☁	67 ☁	73 ☁	103 ☀	97 ☁
Electronic products**	81 ☁	85 ☁	82 ☁	82 ☁	103 ☀	98 ☁
Wireless communication products**	89 ☁	88 ☁	93 ☁	83 ☁	104 ☀	95 ☁
Refined petroleum products**	90 ☁	88 ☁	103 ☀	95 ☁	106 ☀	108 ☀
Bio/Health care**	105 ☀	103 ☀	111 ☀	104 ☀	110 ☀	108 ☀
Secondary batteries**	89 ☁	85 ☁	100 ☀	104 ☀	113 ☀	107 ☀
ICT	82 ☁	83 ☁	87 ☁	82 ☁	103 ☀	98 ☁
Material industry**	85 ☁	86 ☁	93 ☁	86 ☁	101 ☀	100 ☀
Machinery industry**	87 ☁	87 ☁	85 ☁	83 ☁	97 ☁	96 ☁
New industries**	101 ☀	99 ☁	109 ☀	104 ☀	111 ☀	108 ☀
Large companies	96 ☁	96 ☁	93 ☁	90 ☁	100 ☀	103 ☀
Small and medium-sized enterprises (SMEs)	85 ☁	85 ☁	89 ☁	84 ☁	99 ☁	97 ☁
Domestic-oriented	86 ☁	86 ☁	90 ☁	84 ☁	99 ☁	97 ☁
Export-oriented	87 ☁	88 ☁	90 ☁	85 ☁	100 ☀	99 ☁

Note : 1) ☀ 115 above, ☁ 100~115, ☁ 85~100, ☁ 85 below.
 2) ** represent industries surveyed following reforms to the survey methodology.

were also pessimistic about the steel, textiles, electronic products and wireless communication products industries, which are expected to record poor figures in sales, domestic demand, and ordinary profit. On the other hand, there

appears to be some optimism in the chemical, bio/health care and secondary battery industries, and the outlook for new industry is relatively favorable compared to other industries and sectors.

Table 5. Major Index Components of the Manufacturing Outlook

	Sales	Domestic Demand	Exports	Ordinary Profit	Facilities Investment	Employment
Overall	86 ☁️	86 ☁️	94 ☁️	87 ☁️	100 🌤️	98 ☁️
Semiconductors	89 ☁️	87 ☁️	104 🌤️	90 ☁️	104 🌤️	99 ☁️
Automobiles	90 ☁️	89 ☁️	94 ☁️	88 ☁️	96 ☁️	94 ☁️
Shipbuilding	89 ☁️	90 ☁️	99 ☁️	90 ☁️	95 ☁️	93 ☁️
General machinery	88 ☁️	89 ☁️	93 ☁️	88 ☁️	98 ☁️	98 ☁️
Steel	83 🌧️	84 🌧️	88 ☁️	83 🌧️	94 ☁️	94 ☁️
Chemicals	93 ☁️	94 ☁️	100 🌤️	93 ☁️	101 🌤️	100 🌤️
Textiles	80 🌧️	77 🌧️	86 ☁️	80 🌧️	89 ☁️	90 ☁️
Displays**	75 🌧️	74 🌧️	69 🌧️	77 🌧️	103 🌤️	95 ☁️
Electronic products**	83 🌧️	83 🌧️	95 ☁️	84 🌧️	101 🌤️	93 ☁️
Wireless communication products**	80 🌧️	79 🌧️	89 ☁️	81 🌧️	101 🌤️	94 ☁️
Refined petroleum products**	82 🌧️	83 🌧️	92 ☁️	88 ☁️	103 🌤️	106 🌤️
Bio/Health care**	107 🌤️	104 🌤️	109 🌤️	105 🌤️	112 🌤️	108 🌤️
Secondary batteries**	96 ☁️	92 ☁️	102 🌤️	99 ☁️	110 🌤️	108 🌤️
ICT	84 🌧️	83 🌧️	94 ☁️	86 ☁️	103 🌤️	97 ☁️
Material industry**	83 🌧️	84 🌧️	91 ☁️	86 ☁️	97 ☁️	99 ☁️
Machinery industry**	89 ☁️	89 ☁️	94 ☁️	88 ☁️	97 ☁️	96 ☁️
New industry**	105 🌤️	102 🌤️	108 🌤️	104 🌤️	111 🌤️	108 🌤️
Large companies	97 ☁️	93 ☁️	101 🌤️	96 ☁️	101 🌤️	99 ☁️
Small and medium-sized enterprises (SMEs)	87 ☁️	87 ☁️	94 ☁️	87 ☁️	98 ☁️	96 ☁️
Domestic-oriented	87 ☁️	87 ☁️	96 ☁️	87 ☁️	98 ☁️	96 ☁️
Export-oriented	92 ☁️	91 ☁️	94 ☁️	92 ☁️	100 🌤️	97 ☁️

Note : 1) 🌤️ 115 above, 🌤️ 100~115, ☁️ 85~100, 🌧️ 85 below.
 2) ** represent industries surveyed following reforms to the survey methodology.

< Appendix >

Outline of KIET Quarterly Manufacturing Business Survey Index

- BSI figures were compiled through surveys completed by representatives at 1135 domestic manufacturing firms, with 88 percent of the respondents who complied with the survey identifying as a small or medium-sized enterprise. The survey was conducted from December 9 to 20, 2019.
- The questionnaire issued comprises 10 sections on business conditions, sales, domestic demand, exports, ordinary profit, facilities investment, the operation ratio of facilities, inventory, employment, and financial conditions. This survey is intended to assess quarterly performance and grasp the economic climate of the upcoming quarter.