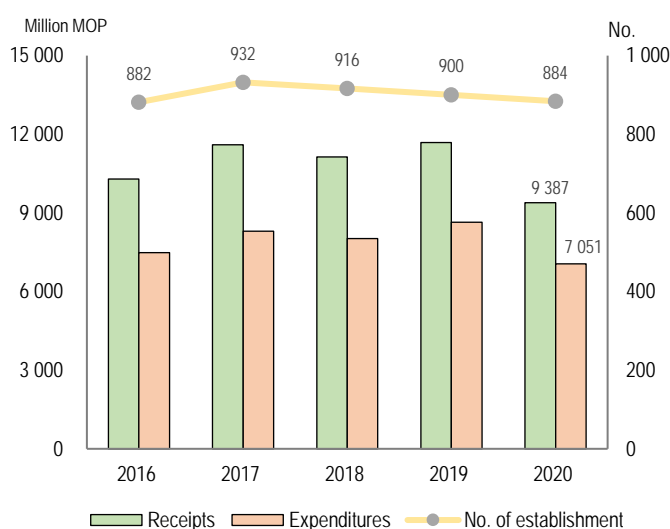


- Receipts of the establishments engaged in industrial related activities (covering Manufacturing and Electricity, Gas & Water Supply) decreased by 19.7% year-on-year to MOP9.39 billion, with Value of Production (MOP9.24 billion) and Other Receipts (MOP143 million) dropping by 19.9% and 0.5% respectively. Expenditure of the establishments went down by 18.4% year-on-year to MOP7.05 billion, of which Intermediate Consumption (MOP4.70 billion) fell by 25.1% and Compensation of Employees (MOP2.35 billion) edged down by 0.8%.
- Gross Surplus (receipts less expenditure) of the sector declined by 23.3% year-on-year to MOP2.34 billion. Gross Value Added that measures the sectoral contribution to the economy totalled MOP4.68 billion, down by 13.5% year-on-year. Gross Fixed Capital Formation reduced by 34.3% to MOP1.14 billion.
- Number of establishments operating in industrial related activities decreased by 16 year-on-year to 884, and the total number of persons engaged dropped by 1,080 to 11,473.

Principal Indicators

	2019	2020	Change (%)
Establishments (No.)	900	884	-16 estab.
Persons engaged (No.)	12 553	11 473	-1 080 persons
Receipts	11 689	9 387	-19.7
Value of production	11 546	9 244	-19.9
Expenditures	8 643	7 051	-18.4
Intermediate consumption	6 275	4 702	-25.1
Compensation of employee	2 369	2 349	-0.8
Gross value added	5 415	4 685	-13.5
Gross fixed capital formation	1 742 ^f	1 144	-34.3
Gross surplus	3 046	2 336	-23.3
Gross Surplus Ratio (%)	26.1	24.9	-1.2 p.p.
Gross Surplus-Expenditure Ratio (%)	35.2	33.1	-2.1 p.p.

Number of establishment, Receipts and Expenditures



Manufacturing

- Number of establishments reduced by 16 year-on-year to 878, of which 414 were related to Manufacture of Food Products & Beverages. Number of persons engaged totalled 10,355, a decrease of 1,093.

Receipts of the Manufacturing sector amounted to MOP5.46 billion, a drop of 23.9% year-on-year. Expenditure dipped by 18.3% to MOP5.09 billion, of which Intermediate Consumption and Compensation of Employees declined by 20.7% and 11.5% respectively. Gross Surplus slid by 61.0% to MOP368 million. Gross Value Added totalled MOP1.82 billion, down by 29.5%. Gross Fixed Capital Formation of the sector fell by 54.0% to MOP123 million.

Principal Indicators

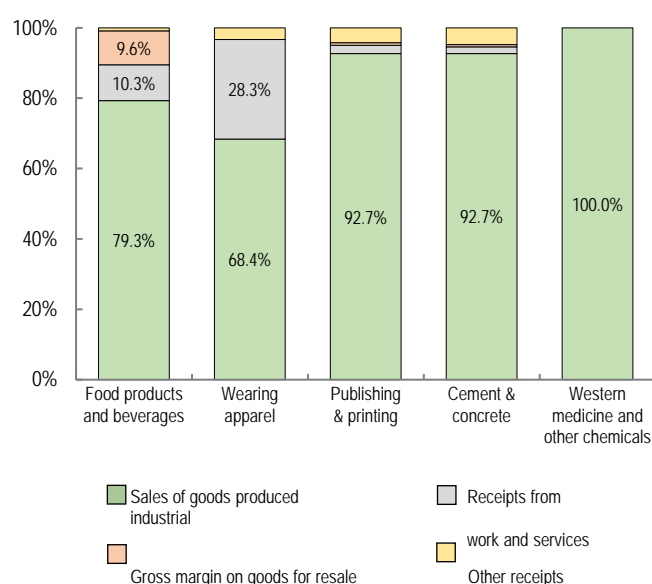
	2019	2020	Change (%)
Establishments (No.)	894	878	-16 estab.
Persons engaged (No.)	11 448	10 355	-1 093 persons
Receipts	7 171	5 459	-23.9
Value of production	7 041	5 330	-24.3
Expenditures	6 229	5 092	-18.3
Intermediate consumption	4 587	3 639	-20.7
Compensation of employees	1 641	1 453	-11.5
Gross value added	2 584	1 821	-29.5
Gross fixed capital formation	267 ^f	123	-54.0
Gross surplus	943	368	-61.0
Gross Surplus Ratio (%)	13.1	6.7	-6.4 p.p.
Gross Surplus-Expenditure Ratio (%)	15.1	7.2	-7.9 p.p.

Receipts

- Within the Manufacturing sector, receipts of Manufacture of Food Products & Beverages decreased by 37.2% year-on-year to MOP1.87 billion, of which receipts of Manufacture of Chinese Bakery Products (with visitors being the major source of customers) slumped by 63.2% to MOP326 million; moreover, receipts of Manufacture of Western Bakery Products dropped by 18.2% to MOP618 million.

Receipts of the Publishing & Printing industry totalled MOP457 million, down by 37.7% year-on-year. Meanwhile, receipts of Manufacture of Wearing Apparel (MOP397 million) declined by 29.7% year-on-year in 2020 after a relatively large growth in the previous year, with receipts of Manufacture of Garment (MOP355 million) falling by 31.2%. Receipts of Manufacture of Chinese Medicine amounted to MOP39.90 million, a decrease of 45.4%.

Structure of Receipts of Manufacturing Sector



Expenditure

- Intermediate Consumption (MOP3.63 billion) and Compensation of Employees (MOP1.45 billion) accounted for 71.5% and 28.5% of the total expenditure of the Manufacturing sector. Both expenditure items recorded a year-on-year decrease. Within the sector, the year-on-year change in expenditure of all industries was generally in line with the change in receipts.

Analysed by expenditure item, costs of raw materials used and compensation of employees occupied major shares of expenditure of the Manufacturing sector. For Manufacture of Cement & Concrete, costs of raw materials used comprised 67.3% of the expenditure. As regards the Publishing & Printing industry, compensation of employees made up 52.2% of the expenditure. With respect to Manufacture of Food Products and Beverages and Manufacture of Wearing Apparel, compensation of employees took up 32.5% and 32.2% of the respective expenditure.

Receipts and Expenditures

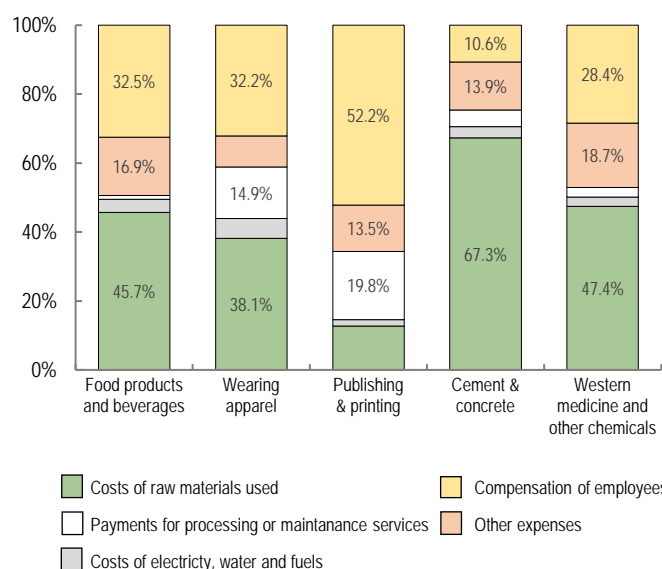
Million MOP

	Receipts	Change (%)	Expenditures	Change (%)
Manufacturing	5 459	-23.9	5 092	-18.3
Manufacture of food products and beverages	1 872	-37.2	1 798	-25.4
Manufacture of textiles	262	58.4	248	51.7
Manufacture of wearing apparel	397	-29.7	392	-20.6
Publishing & printing	457	-37.7	485	-26.5
Manufacture of cement & concrete	1 074	8.5	910	5.2
Manufacture of Western medicine and other chemicals	391	42.5	290	16.2
Manufacture of Chinese medicine	40	-45.4	32	-42.9
Manufacturing not elsewhere classified	966	-30.4	937	-29.7

Driven by an increase in demand for cement and concrete products in local construction projects, receipts of Manufacture of Cement & Concrete rose by 8.5% year-on-year to MOP1.07 billion. Receipts of Manufacture of Western Medicine & Other Chemicals, an export-oriented industry, grew by 42.5% year-on-year to MOP391 million. In addition, receipts of Manufacture of Textiles, which includes manufacture of masks, surged by 58.4% to MOP262 million.

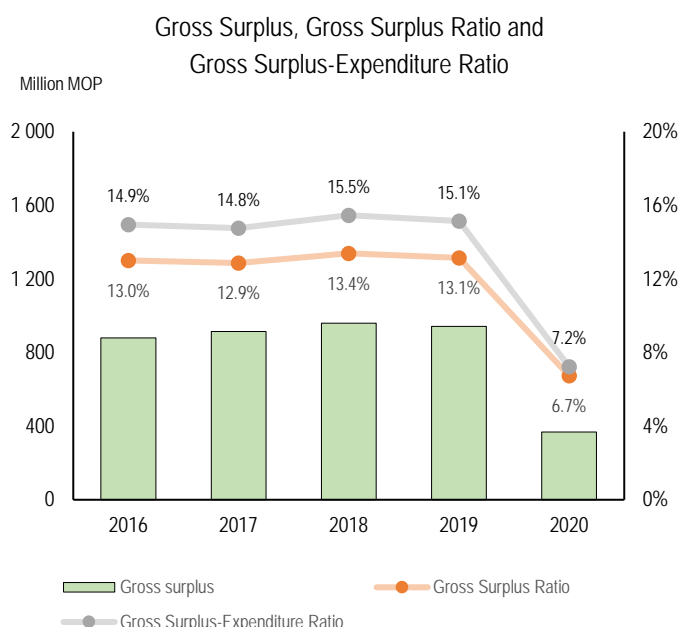
Analysed by type of receipts, sales of goods produced were the primary source of receipts of the Manufacturing sector. All the receipts of Manufacture of Western Medicine & Other Chemicals, as well as over 90% of the receipts of Manufacture of Cement & Concrete and the Publishing & Printing industry, came from sales of goods produced. As regards Manufacture of Wearing Apparel, 28.3% of the receipts were generated from industrial work and services rendered. Meanwhile, 9.6% of the receipts of Manufacture of Food Products and Beverages were gross margin on goods for resale.

Structure of Expenditures of Manufacturing Sector



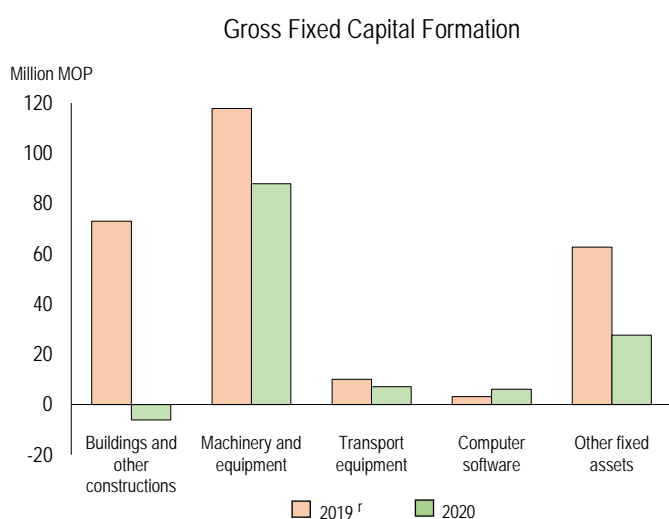
Gross Value Added

- Gross Value Added of the Manufacturing sector decreased by 29.5% year-on-year to MOP1.82 billion, and Average Value Added per Person Engaged dropped by 22.1% to MOP176 thousand. Analysed by industry, Gross Value Added of Manufacture of Food Products & Beverages, which accounted for the largest share of the total, reduced by 49.0% to MOP659 million; Average Value Added per Person Engaged fell by 41.5% to MOP127 thousand.



Gross Fixed Capital Formation

- Gross Fixed Capital Formation of the Manufacturing sector declined by 54.0% year-on-year to MOP123 million ascribable to sale of property and a reduction in acquisition of machinery and equipment by some establishments. Gross Fixed Capital Formation of buildings & other constructions recorded a negative value of MOP6.09 million, while that of machinery & equipment (MOP87.88 million) and other fixed assets (MOP27.61 million) dropped by 25.4% and 56.0% respectively. Meanwhile, Gross Fixed Capital Formation of computer software (MOP6.11 million) leapt by 92.4%.



Gross Value Added and Gross Surplus

Million MOP

	Gross value added	Change (%)	Gross surplus	Change (%)
Manufacturing	1 821	-29.5	368	-61.0
Manufacture of food products and beverages	659	-49.0	74	-87.0
Manufacture of textiles	50	96.7	14	633.4
Manufacture of wearing apparel	131	-32.6	5	-92.4
Publishing & printing	225	-36.5	-29	..
Manufacture of cement & concrete	261	19.3	164	31.0
Manufacture of Western medicine and other chemicals	183	80.1	101	303.3
Manufacture of Chinese medicine	23	-27.5	8	-53.6
Manufacturing not elsewhere classified	289	-21.2	29	-47.5

Gross Surplus

- As the decrease in receipts was larger than that in expenditure, Gross Surplus of the Manufacturing sector slid by 61.0% year-on-year to MOP368 million. Gross Surplus Ratio (6.7%) and Gross Surplus-Expenditure Ratio (7.2%) dipped by 6.4 and 7.9 percentage points respectively.

In terms of industry, Gross Surplus of Manufacture of Wearing Apparel dived by 92.4% year-on-year to MOP5.45 million, of which that of Manufacture of Garments tumbled by 88.8%; meanwhile, Manufacture of Tailor Made Clothing recorded a deficit. Gross Surplus of Manufacture of Food Products & Beverages declined by 87.0% year-on-year to MOP74.44 million, with that of Manufacture of Chinese Bakery Products and Manufacture of Western Bakery Products falling by 82.6% and 76.2% respectively. Gross Surplus of Manufacture of Chinese Medicine reduced by 53.6% to MOP7.95 million. The Publishing & Printing industry posted a deficit of MOP28.51 million in 2020 as against a surplus of MOP72.64 million in 2019.

On the other hand, Gross Surplus of Manufacture of Textiles (MOP14.00 million) and Manufacture of Western Medicine & Other Chemicals (MOP101 million) surged by 633.4% and 303.3% respectively, while that of Manufacture of Cement & Concrete (MOP164 million) increased by 31.0%.

Gross Fixed Capital Formation

Million MOP

	2019 [†]	2020	Change (%)
Manufacturing	267	123	-54.0
Manufacture of food products and beverages	79	59	-25.5
Manufacture of textiles	8	16	108.9
Manufacture of wearing apparel	56	-26	..
Publishing & printing	68	5	-93.3
Manufacture of cement & concrete	-13	8	..
Manufacture of Western medicine and other chemicals	59	52	-11.6
Manufacture of Chinese medicine	2	1	-27.7
Manufacturing not elsewhere classified	9	8	-13.7

Number of Establishments and Persons Engaged

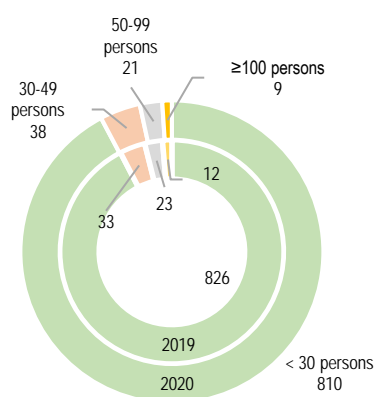
	Establishments	Change	Persons engaged	Change
Manufacturing	878	-16	10 355	-1 093
Manufacture of food products and beverages	414	-8	5 191	-759
Manufacture of textiles	13	6	253	130
Manufacture of wearing apparel	106	-5	1 228	-70
Publishing & printing	173	-1	1 471	-208
Manufacture of cement & concrete	9	-	402	21
Manufacture of Western medicine and other chemicals	6	1	241	-5
Manufacture of Chinese medicine	5	-	107	3
Manufacturing not elsewhere classified	152	-9	1 462	-205

Size of Establishment

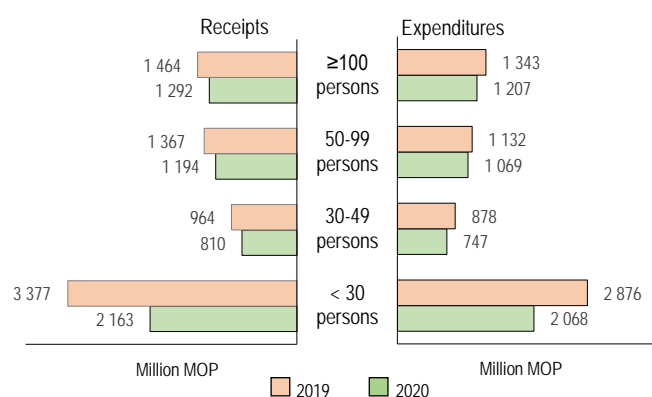
Among the establishments related to the Manufacturing sector, number of small-scale establishments with less than 30 persons engaged decreased by 16 year-on-year to 810, accounting for 92.3% of the total. Analysed by industry, small-scale establishments took up 94.8% (164) of the Publishing & Printing industry, while the corresponding proportion for Manufacture of Food Products & Beverages was 92.0% (381). Small-scale establishments contributed 39.6% (MOP2.16 billion) of the sector's receipts and 40.6% (MOP2.07 billion) of the sector's expenditure.

Meanwhile, establishments with 100 or more persons engaged decreased by 3 year-on-year to 9. Receipts and expenditure of these establishments totalled MOP1.29 billion and MOP1.21 billion respectively, occupying 23.7% of the respective total.

Number of Establishments by Size



Receipts and Expenditures by Size of



Electricity, Gas & Water Supply

Receipts of the sector dropped by 13.1% year-on-year to MOP3.93 billion, attributable to a fall in consumption of water and electricity, as well as a reduction in consumption of natural gas used for electricity generation which resulted from a decrease in local electricity production. Receipts from sale of goods produced (MOP1.37 billion) declined by 29.4% while gross margin on goods purchased for resale (MOP2.14 billion) edged down by 0.3%. As regards the structure of receipts, the proportion of sale of goods produced shrank by 8.1 percentage points, while that of gross margin on goods purchased for resale rose by 7.0 percentage points; in addition, the share of receipts from industrial work and services rendered grew by 1.1 percentage points.

Expenditure of the sector went down by 18.9% year-on-year to MOP1.96 billion, of which costs of raw materials used (MOP639 million) and payments for processing or maintenance services (MOP206 million) dipped by 48.6% and 16.3% respectively. Compensation of Employees increased by 23.2% to MOP896 million attributable to an increase in contribution of employees' pension fund by some establishments, and its proportion of expenditure expanded by 15.6 percentage points. Meanwhile, the proportion of costs of materials used dropped by 18.9 percentage points.

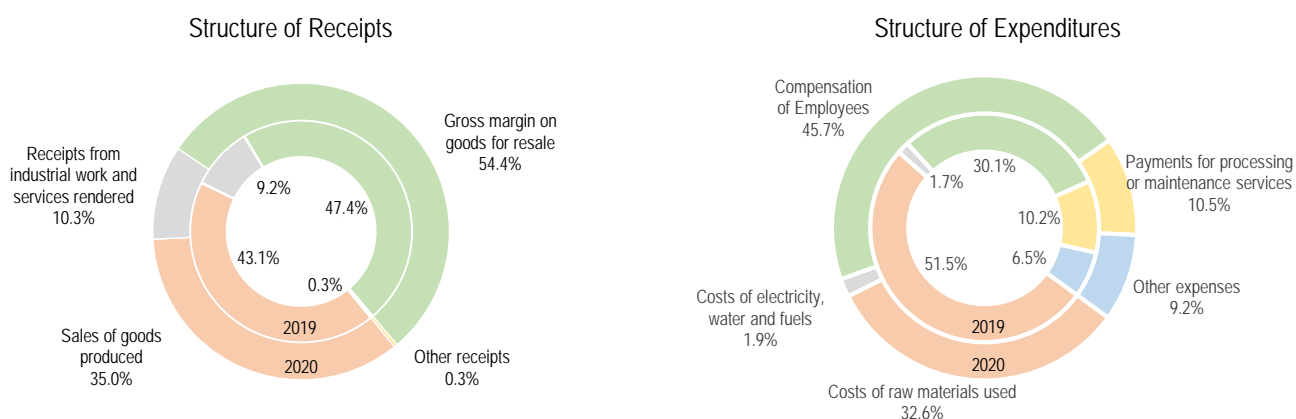
Principal Indicators

	Million MOP		
	2019	2020	Change (%)
Establishments (No.)	6	6	-
Persons engaged (No.)	1 105	1 118	13 persons
Receipts	4 518	3 928	-13.1
Value of production	4 505	3 914	-13.1
Expenditures	2 415	1 959	-18.9
Intermediate consumption	1 687	1 063	-37.0
Compensation of employee	727	896	23.2
Gross value added	2 831	2 864	1.2
Gross fixed capital formation	1 475	1 022	-30.7
Gross surplus	2 103	1 968	-6.4
Gross Surplus Ratio (%)	46.6	50.1	3.5 p.p.
Gross Surplus-Expenditure Ratio (%)	87.1	100.5	13.4 p.p.

- As Intermediate Consumption recorded a larger decrease than receipts, Gross Value Added of the Electricity, Gas & Water Supply sector went up by 1.2% year-on-year to MOP2.86 billion. Yet, Gross Surplus of the sector decreased by 6.4% to MOP1.97 billion due to an increase in Compensation of Employees. Gross Surplus Ratio grew by 3.5 percentage points year-on-year to 50.1%, while Gross Surplus-Expenditure Ratio rose by 13.4 percentage points to 100.5%.

Gross Fixed Capital Formation of the sector declined by 30.7% year-on-year to MOP1.02 billion, as a result of a decrease in acquisition of machinery, equipment and building units.

Number of establishments stayed at 6, whereas number of persons engaged increased by 13 to 1,118.



Historical Data on Principal Indicators

	2015	2016	2017	2018	2019
Establishments (No)	899	882	932	916	900
Persons Engaged (No)	11 905	12 047	12 502	12 429	12 553
Receipts (Million MOP, the same below)	10 507	10 297	11 597	11 132	11 689
Intermediate Consumption	5 970	5 428	6 097	5 860	6 275
Compensation of Employees	1 945	2 059	2 199	2 166	2 369
Gross Surplus	2 592	2 809	3 301	3 105	3 046
Gross Fixed Capital Formation	1 218	1 134	1 175	1 936	1 742 ^r
Gross Value Added	4 537	4 869	5 500	5 272	5 415
Manufacturing	2 164	2 293	2 492	2 550	2 584
Food Products & Beverages	690	774	1 069	1 220	1 292
Wearing Apparel	131	169	152	180	195
Publishing & Printing	308	274	266	321	353
Cement & Concrete	506	403	330	258	218
Other Manufacturing Industries	528	673	675	570	525
Electricity, Gas & Water Supply	2 373	2 576	3 008	2 722	2 831
Average Value Added per Person Engaged ('000 MOP)	381	404	440	424	431
Gross Surplus Ratio (%)	24.7	27.3	28.5	27.9	26.1
Gross Surplus-Expenditure Ratio (%)	32.7	37.5	39.8	38.7	35.2

Survey Coverage

The Industrial Survey covers all establishments engaging in activities related to Section C (Mining & quarrying), Section D (Manufacturing) and Section E (Electricity, gas & water supply) of the Classification of Economic Activities of Macao, Revision 1 (CAM-Rev.1). As from 2014, there is no establishment in Macao operating in activities under Section C. When an enterprise has more than one establishment engaging in the same industry, these establishments are considered as one statistical unit.

Sampling and Statistical Inference of Results

Samples were selected by stratified random sampling based on the list of establishments originated from the Statistics and Census Service (DSEC). For those strata with limited number of statistical units, establishments with 100 or more persons engaged, as well as statistical units comprising multiple establishments, full enumeration was undertaken.

The strata were formed according to CAM-Rev.1 and the number of persons engaged. Some industries of small significance were grouped under "Manufacturing not elsewhere classified". Number of persons engaged was classified into less than 30, 30 – 49, 50 – 99 and 100 or more.

Sample size of the Industrial Survey 2020 comprised 449 statistical units, of which 74 establishments were excluded due to inactivity, closure, non-contact, etc. Hence, survey results were extrapolated from the information collected from 375 completed questionnaires.

Statistical inference:

$$1) \text{ Estimation of the total value of variable } Y \text{ of a particular industry: } \hat{Y}_j = \sum_{h=1}^4 \sum_{i=1}^{n_{hj}} w_{hj} * y_{hji}$$

$$2) \text{ Estimated variance of parameter } Y \text{ of industry } j: \hat{V}(Y_j) = \sum_{h=1}^4 \left(1 - \frac{1}{w_{hj}}\right) * N_{hj}^2 * \frac{s_{hj}^2}{n_{hj}}$$

Of which:

j : industry group; h : number of persons engaged; i : a specific establishment of the sample $w_{hj} = \frac{N_{hj}}{n_{hj}}$

y_{hji} : observed value of variable y of sample i ; n_{hj} : number of sample establishments of stratum hj ; N_{hj} : total number of establishments of stratum hj ; s_{hj} : standard deviation of variable y of stratum hj

Standard error of principal indicators

'000 MOP

Persons engaged (No.)	Compensation of employees	Receipts	Intermediate consumption	Gross value added	Gross fixed capital formation
297	41 802	174 790	119 081	67 714	14 707

Glossary

Establishment

An economic unit which engages in one or predominantly one kind of industrial related activities at a single location.

Persons Engaged

Individuals who work for the establishment as at the last working day of the reference year, including employees and unpaid workers; however, those who are absent on that day and are absent for an indefinite period are excluded.

Compensation of Employees

Remuneration paid by the establishment to the employees before any deductions, including remuneration in kind and payments for other employees' welfare.

Value of Production

Sales of goods produced by the establishment (including production for own use); plus receipts from industrial work and services rendered to other establishments (e.g. processing work, repair, maintenance and installation services rendered, research and development performed); gross margin on goods for resale, and changes in inventories of goods.

Other Receipts

Receipts from non-industrial work/services rendered to others, e.g. rent from leasing industrial equipment and plant; income from operating canteen or providing other services to staff; commission; income from patents and trademarks, etc.

Cost of Production

Costs of raw materials, water, electricity and fuels acquired, plus expenses on industrial work performed by others and changes in inventories of raw materials.

Receipts

Value of production plus other receipts.

Intermediate Consumption

Cost of production plus other expenses (e.g. rental payments incurred for the use of plant and industrial buildings, machinery and equipment; expenses on communications, etc.).

Expenditure

Intermediate consumption plus compensation of employees.

Value Added of Industry

Value of production less cost of production.

Gross Value Added

Total receipts less intermediate consumption.

Gross Fixed Capital Formation

Equals the value of acquisition minus disposal of fixed assets (new, used and produced by the establishment for own use), which include buildings, furniture, machinery and equipment, vehicles and other durable goods with a usable span of one year or more. Also included are major repairs, alterations and extensions made to the existing assets.

Gross Surplus

Receipts less intermediate consumption and compensation of employees.

Gross Surplus Ratio

Gross Surplus divided by receipts and then multiplied by 100%. The higher the ratio, the more effective a business is at converting receipts into gross surplus.

Gross Surplus-Expenditure Ratio

Gross Surplus divided by expenditure (including Intermediate Consumption and Compensation of Employees) and multiplied by 100%. The higher the ratio, the more cost-effective an establishment is.

Average Value Added per Person Engaged

Gross Value Added divided by number of persons engaged. An indicator that measures the sectoral contribution of each person engaged to the economy.

Symbols

r Revised Figures

- Absolute value equals zero

MOP Macao Patacas

'000 Thousand

.. Not applicable

p.p. Percentage point

estab. Establishment

Figures may not add up to the total due to rounding.

For additional information:
<http://www.dsec.gov.mo/e/ind.aspx>

