stats sa
Department:
Statistics South Africa
REPUBLIC OF SOUTH AFRICA

Private Bag X44, Pretoria, 0001, South Africa, ISIbalo House, Koch Street, Salvokop, Pretoria, 0002
www.statssa.gov.za, info@statssa.gov.za, Tel +27 12 310 8911

STATISTICAL RELEASE
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Motor trade sales (Preliminary)

January 2023

This is the first statistical release presenting motor trade sales at constant prices. See page 5 of the statistical release for a brief note on motor trade sales deflation.

This release also provides an analysis of revisions. If you have any questions or comments, please send these to Keshnee Naidoo, keshneen@statssa.gov.za.

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ENQUIRIES:
Keshnee Naidoo
(072) 310 3798

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Sales at constant 2019 prices: results for January 2023

Table A – Key growth rates in motor trade sales at constant 2019 prices

	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
Year-on-year % change, unadjusted	6,6	6,1	2,7	0,8	1,8	-3,0
Month-on-month % change, seasonally adjusted	1,6	1,7	-2,2	-0,6	-0,2	-2,4
3-month % change, seasonally adjusted 1/	-1,1	1,4	1,9	1,7	-1,0	-2,4

1/ Percentage change between the previous 3 months and the 3 months ending in the month indicated.

Measured in real terms (constant 2019 prices), motor trade sales decreased by 3,0% year-on-year in January 2023. The largest negative annual growth rates were recorded for:

- used vehicle sales (-10,8%);
- workshop income (-3,3%); and
- sales of accessories (-3,0%) – see Table 5.

The largest negative contributors to this decrease were:

- used vehicle sales (contributing -2,3 percentage points); and
- sales of accessories (contributing -0,5 of a percentage point) – see Table 6.

Seasonally adjusted motor trade sales decreased by 2,4% in January 2023 compared with December 2022. This followed month-on-month changes of -0,2% in December 2022 and -0,6% in November 2022. In the three months ended January 2023, seasonally adjusted motor trade sales decreased by 2,4% compared with the previous three months.

Table B – Motor trade sales at constant 2019 prices for the latest three months by type of activity

Type of activity	Nov 2021 – Jan 2022 (R million)	Weight (%)	Nov 2022 – Jan 2023 (R million)	% change between Nov 2021 – Jan 2022 and Nov 2022 – Jan 2023	Contribution (% points) to the total % change
New vehicle sales	39 776	23,1	44 574	12,1	2,8
Used vehicle sales	37 594	21,8	33 508	-10,9	-2,4
Workshop income	10 488	6,1	11 199	6,8	0,4
Income from the sales of accessories	29 898	17,3	29 218	-2,3	-0,4
Income from fuel sales	48 226	28,0	47 513	-1,5	-0,4
Income from convenience store sales 1/	6 410	3,7	6 172	-3,7	-0,1
Total	**172 392**	**100,0**	**172 184**	**-0,1**	**-0,1**

1/ Includes 'other' sales and trading income.

Motor trade sales decreased by 0,1% in the three months ended January 2023 compared with the three months ended January 2022. The main negative contributors to this decrease were:

- used vehicle sales (-10,9% and contributing -2,4 percentage points);
- sales of accessories (-2,3% and contributing -0,4 of a percentage point); and
- fuel sales (-1,5% and contributing -0,4 of a percentage point).

The largest positive contributor was new vehicle sales (12,1% and contributing 2,8 percentage points) – see Table B.

Figure 1 – Motor trade sales at constant 2019 prices

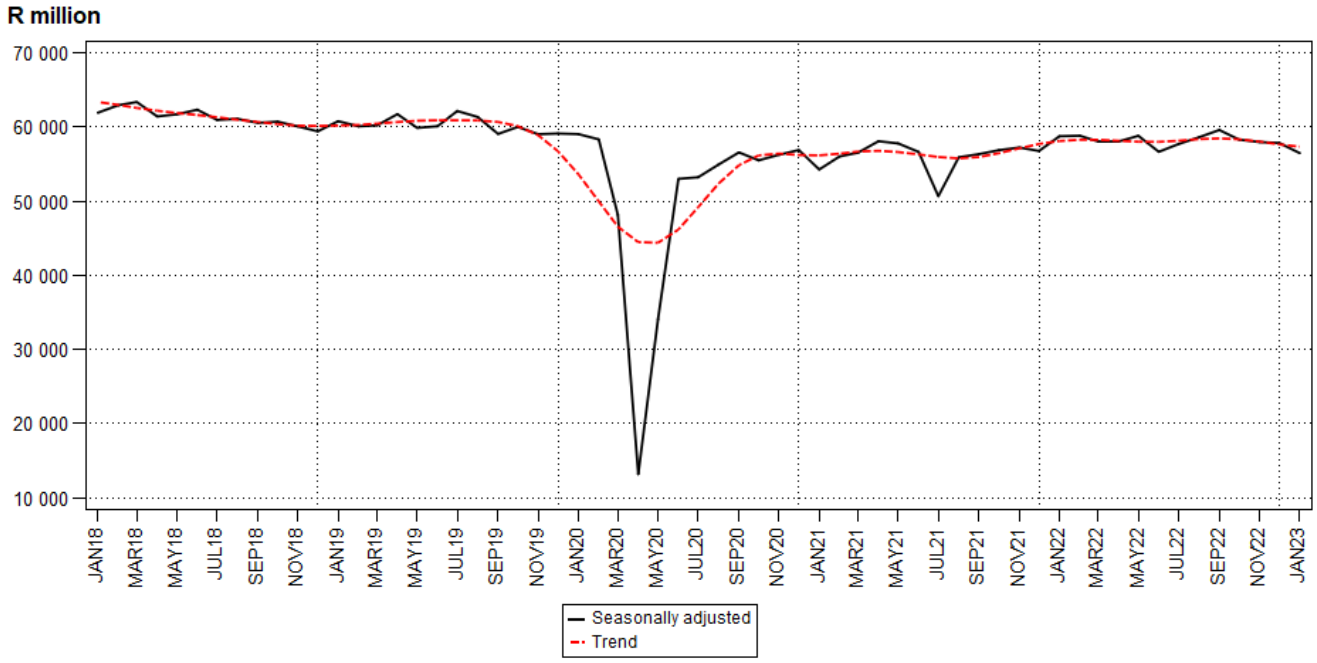
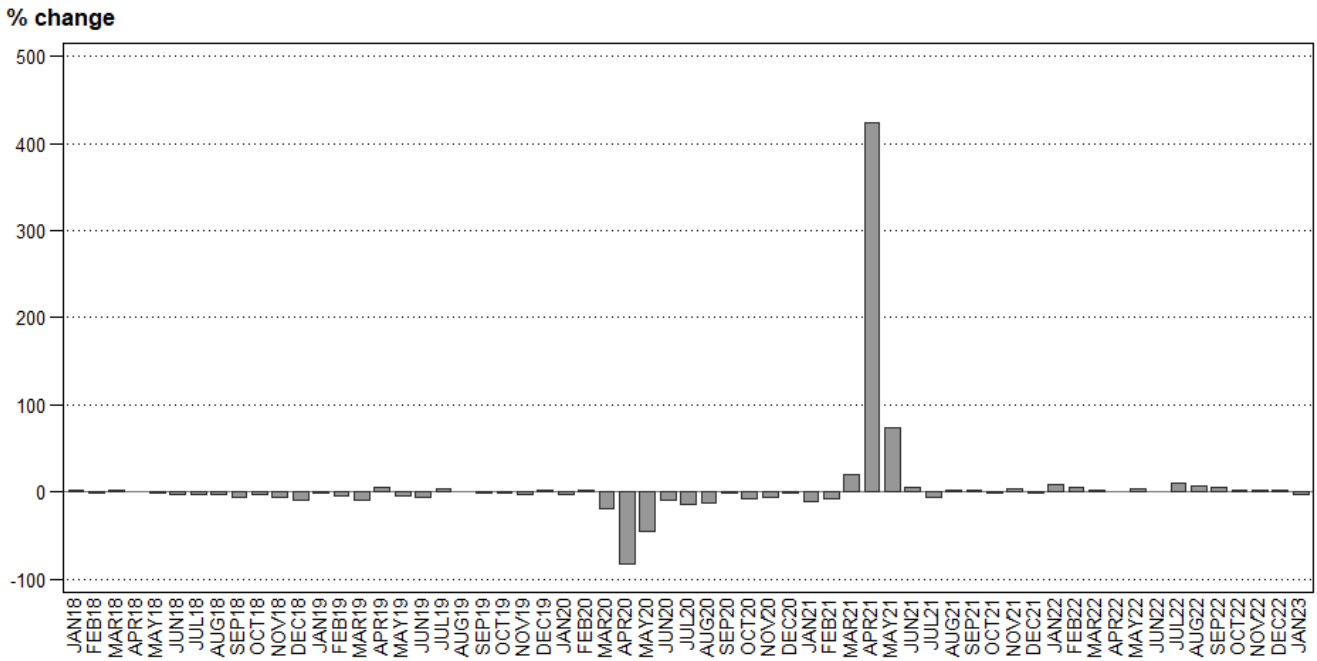


Figure 2 – Motor trade sales at constant 2019 prices: year-on-year percentage change



Sales at current prices: results for January 2023

Table C – Key growth rates in motor trade sales at current prices

	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
Year-on-year % change, unadjusted	24,3	22,1	17,8	14,9	16,0	8,0
Month-on-month % change, seasonally adjusted	3,3	1,2	-1,1	1,0	0,4	-4,5
3-month % change, seasonally adjusted 1/	3,9	5,6	5,6	3,9	1,5	-0,6

1/ Percentage change between the previous 3 months and the 3 months ending in the month indicated.

Table D – Motor trade sales at current prices for the latest three months by type of activity

Type of activity	Nov 2021 – Jan 2022 (R million)	Weight (%)	Nov 2022 – Jan 2023 (R million)	% change between Nov 2021 – Jan 2022 and Nov 2022 – Jan 2023	Contribution (% points) to the total % change
New vehicle sales	44 890	22,8	53 594	19,4	4,4
Used vehicle sales	38 934	19,8	40 005	2,8	0,6
Workshop income	11 141	5,7	12 643	13,5	0,8
Income from the sales of accessories	34 708	17,7	36 638	5,6	1,0
Income from fuel sales	59 877	30,5	71 644	19,7	6,0
Income from convenience store sales 1/	6 967	3,5	7 542	8,3	0,3
Total	**196 517**	**100,0**	**222 066**	**13,0**	**13,0**

1/ Includes ‘other’ sales and trading income.

Risenga Maluleke
Statistician-General

Note: Deflation method for motor trade sales

Statistics South Africa (Stats SA) publishes monthly data for the motor trade industry. The publication previously contained estimated sales at current prices. As part of its improvement programme in economic statistics, Stats SA today introduces sales at constant prices for motor trade from January 2017.

In order to convert motor trade sales at current prices to sales at constant prices, deflators are constructed using the producer price index (PPI), consumer price index (CPI) and weights calculated from the structural industry survey (SIS) for motor trade.

Deflators were compiled for each type of activity as follows:

(1) Identify the products sold by each activity type according to the 2018 motor SIS.
(2) Calculate the weight of each product's sales within each type of activity (sales of the product as a percentage of the sales of the type of activity).
(3) Match each product with a corresponding component of the PPI or CPI.
(4) Multiply each PPI/CPI component from (3) by its weight from (2) and sum the results to derive a deflator for each type of activity.
(5) Rebase the results from (4) to 2019 = 100 (on average).

Motor trade sales at constant prices by type of activity are obtained by deflating estimated sales at current prices by the corresponding deflator. To obtain total motor trade sales at constant prices, estimates of the deflated sales for each type of activity are aggregated. Figure 3 shows the comparison of total motor trade sales at current and constant 2019 prices.

Figure 3 – Motor trade sales at current and constant 2019 prices

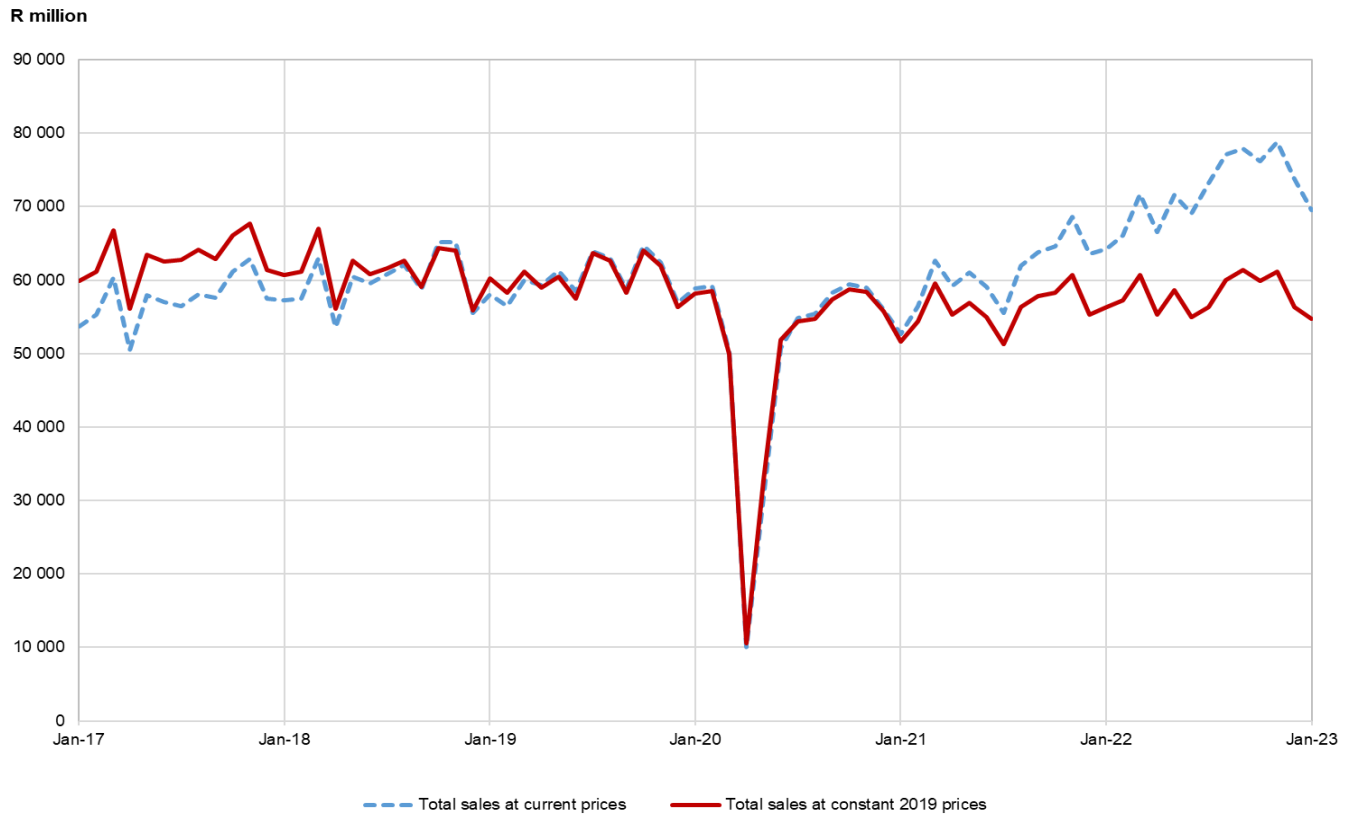
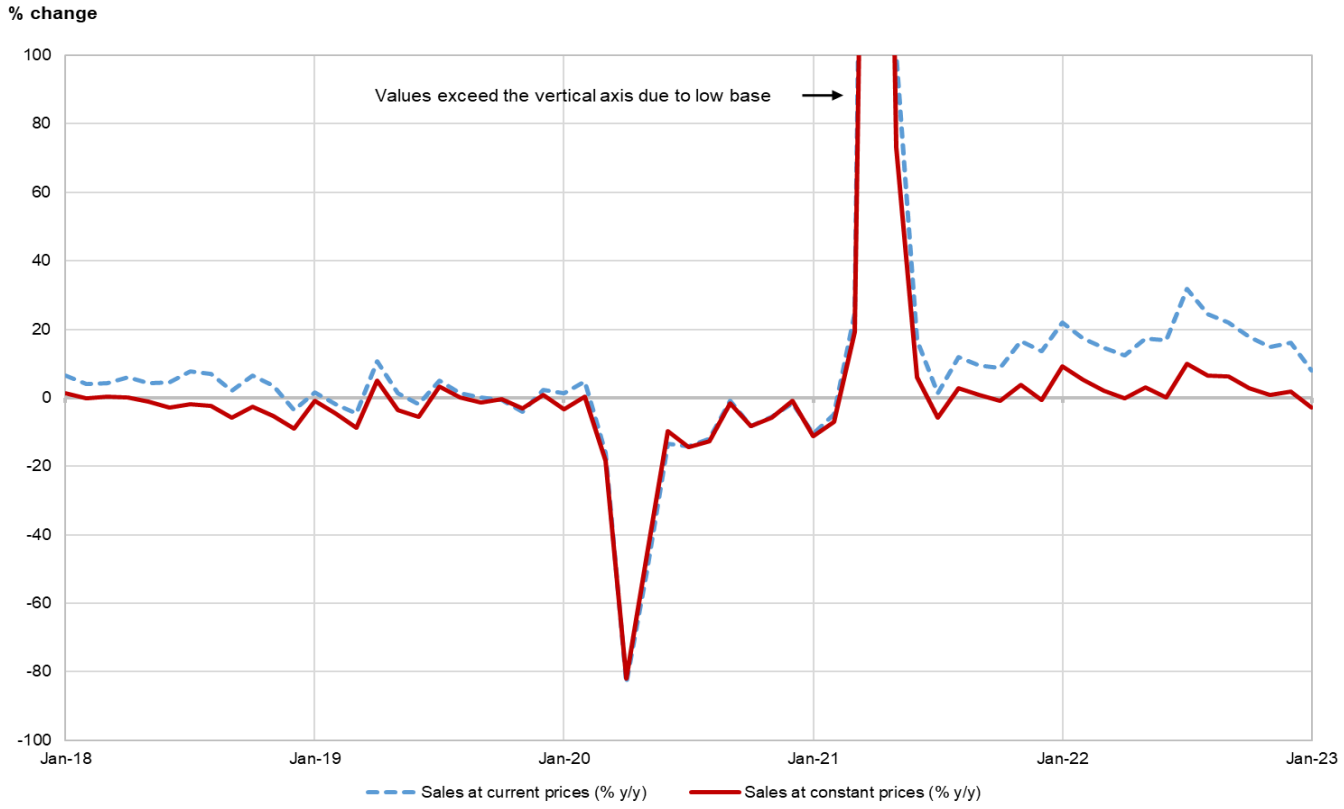


Figure 4 – Motor trade sales at current and constant 2019 prices: year-on-year percentage change



Tables

Table 1 – Motor trade sales at constant 2019 prices (R million)

Month	2017	2018	2019	2020	2021	2022	2023 1/
Jan	59 894	60 742	60 226	58 216	51 631	56 349	54 679
Feb	61 174	61 120	58 299	58 548	54 390	57 242	
Mar	66 790	67 052	61 130	49 858	59 501	60 683	
Apr	56 107	56 128	58 953	10 560	55 282	55 267	
May	63 401	62 652	60 455	32 848	56 899	58 671	
Jun	62 578	60 844	57 431	51 868	54 997	55 016	
Jul	62 781	61 614	63 642	54 436	51 332	56 372	
Aug	64 180	62 695	62 688	54 737	56 341	60 044	
Sep	62 822	59 111	58 278	57 399	57 863	61 413	
Oct	66 111	64 314	64 005	58 754	58 309	59 883	
Nov	67 686	64 014	61 976	58 439	60 698	61 159	
Dec	61 354	55 876	56 288	55 738	55 345	56 346	
Total	**754 878**	**736 162**	**723 371**	**601 401**	**672 588**	**698 445**	

1/ Figures for the latest month are preliminary.

Table 2 – Year-on-year percentage change in motor trade sales at constant 2019 prices

Month	2018	2019	2020	2021	2022	2023	*2023 year-to-date*
Jan	1,4	-0,8	-3,3	-11,3	9,1	-3,0	*-3,0*
Feb	-0,1	-4,6	0,4	-7,1	5,2		
Mar	0,4	-8,8	-18,4	19,3	2,0		
Apr	0,0	5,0	-82,1	423,5	0,0		
May	-1,2	-3,5	-45,7	73,2	3,1		
Jun	-2,8	-5,6	-9,7	6,0	0,0		
Jul	-1,9	3,3	-14,5	-5,7	9,8		
Aug	-2,3	0,0	-12,7	2,9	6,6		
Sep	-5,9	-1,4	-1,5	0,8	6,1		
Oct	-2,7	-0,5	-8,2	-0,8	2,7		
Nov	-5,4	-3,2	-5,7	3,9	0,8		
Dec	-8,9	0,7	-1,0	-0,7	1,8		
Total	**-2,5**	**-1,7**	**-16,9**	**11,8**	**3,8**		

Table 3 – Seasonally adjusted motor trade sales at constant 2019 prices

Month	R million				Month-on-month % change			
	2020	2021	2022	2023	2020	2021	2022	2023
Jan	59 044	54 268	58 756	56 483	-0,1	-4,6	3,5	-2,4
Feb	58 330	56 034	58 824		-1,2	3,3	0,1	
Mar	48 137	56 537	58 045		-17,5	0,9	-1,3	
Apr	13 160	58 083	58 050		-72,7	2,7	0,0	
May	34 073	57 785	58 811		158,9	-0,5	1,3	
Jun	53 003	56 638	56 652		55,6	-2,0	-3,7	
Jul	53 219	50 666	57 702		0,4	-10,5	1,9	
Aug	54 931	55 915	58 613		3,2	10,4	1,6	
Sep	56 575	56 349	59 597		3,0	0,8	1,7	
Oct	55 500	56 873	58 300		-1,9	0,9	-2,2	
Nov	56 260	57 231	57 970		1,4	0,6	-0,6	
Dec	56 892	56 770	57 847		1,1	-0,8	-0,2	

Table 4 – Motor trade sales at constant 2019 prices by type of activity (R million)

Type of activity	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23 1/
New vehicle sales	15 956	16 074	15 233	16 252	15 085	13 237
Used vehicle sales	12 454	12 491	12 431	12 439	10 145	10 924
Workshop income	4 080	4 402	3 899	4 234	3 583	3 382
Income from the sales of accessories	10 694	10 848	10 055	10 780	8 997	9 441
Income from fuel sales	14 915	15 612	16 176	15 529	16 275	15 709
Income from convenience store sales 2/	1 945	1 986	2 089	1 925	2 261	1 986
Total	**60 044**	**61 413**	**59 883**	**61 159**	**56 346**	**54 679**

1/ Figures are preliminary.
2/ Includes 'other' sales and trading income.

Table 5 – Year-on-year percentage change in motor trade sales at constant 2019 prices by type of activity

Type of activity	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
New vehicle sales	16,1	16,5	17,1	16,4	21,6	-1,3
Used vehicle sales	1,1	-3,3	-5,3	-10,0	-12,0	-10,8
Workshop income	25,8	26,1	11,8	15,2	8,1	-3,3
Income from the sales of accessories	10,5	6,9	-0,4	-0,9	-3,2	-3,0
Income from fuel sales	-3,4	0,3	-1,9	-4,8	-1,2	1,7
Income from convenience store sales 1/	1,4	1,4	0,0	-6,6	-3,5	-1,0
Total	**6,6**	**6,1**	**2,7**	**0,8**	**1,8**	**-3,0**

1/ Includes 'other' sales and trading income.

Table 6 – Contribution of each type of activity to the year-on-year percentage change in motor trade sales at constant 2019 prices

Type of activity	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
New vehicle sales	3,9	3,9	3,8	3,8	4,8	-0,3
Used vehicle sales	0,2	-0,7	-1,2	-2,3	-2,5	-2,3
Workshop income	1,5	1,6	0,7	0,9	0,5	-0,2
Income from the sales of accessories	1,8	1,2	-0,1	-0,2	-0,5	-0,5
Income from fuel sales	-0,9	0,1	-0,5	-1,3	-0,4	0,5
Income from convenience store sales 1/	0,0	0,0	0,0	-0,2	-0,1	0,0
Total	**6,6**	**6,1**	**2,7**	**0,8**	**1,8**	**-3,0**

1/ Includes 'other' sales and trading income.

Table 7 – Motor trade sales at current prices (R million)

Month	2017	2018	2019	2020	2021	2022	2023 1/
Jan	53 674	57 211	58 073	58 804	52 684	64 307	69 481
Feb	55 299	57 509	56 474	59 193	56 411	66 109	
Mar	60 342	62 936	60 017	50 282	62 668	71 747	
Apr	50 530	53 531	59 300	9 984	59 186	66 563	
May	57 943	60 467	61 310	30 529	61 068	71 587	
Jun	56 987	59 603	58 510	50 658	59 124	69 060	
Jul	56 489	60 840	63 926	54 854	55 584	73 233	
Aug	58 110	62 122	63 025	55 427	61 961	77 045	
Sep	57 576	58 713	58 745	58 247	63 794	77 864	
Oct	61 135	65 150	64 669	59 408	64 650	76 149	
Nov	62 889	65 163	62 465	58 928	68 640	78 848	
Dec	57 515	55 523	56 859	55 940	63 570	73 737	
Total	**688 489**	**718 768**	**723 373**	**602 254**	**729 340**	**866 249**	

1/ Figures for the latest month are preliminary.

Table 8 – Year-on-year percentage change in motor trade sales at current prices

Month	2018	2019	2020	2021	2022	2023	*2023 year-to-date*
Jan	6,6	1,5	1,3	-10,4	22,1	8,0	*8,0*
Feb	4,0	-1,8	4,8	-4,7	17,2		
Mar	4,3	-4,6	-16,2	24,6	14,5		
Apr	5,9	10,8	-83,2	492,8	12,5		
May	4,4	1,4	-50,2	100,0	17,2		
Jun	4,6	-1,8	-13,4	16,7	16,8		
Jul	7,7	5,1	-14,2	1,3	31,8		
Aug	6,9	1,5	-12,1	11,8	24,3		
Sep	2,0	0,1	-0,8	9,5	22,1		
Oct	6,6	-0,7	-8,1	8,8	17,8		
Nov	3,6	-4,1	-5,7	16,5	14,9		
Dec	-3,5	2,4	-1,6	13,6	16,0		
Total	**4,4**	**0,6**	**-16,7**	**21,1**	**18,8**		

Table 9 – Seasonally adjusted motor trade sales at current prices

Month	R million				Month-on-month % change			
	2020	2021	2022	2023	2020	2021	2022	2023
Jan	60 595	55 960	67 929	72 621	1,1	-3,8	3,6	-4,5
Feb	61 668	58 615	68 365		1,8	4,7	0,6	
Mar	48 580	60 034	69 112		-21,2	2,4	1,1	
Apr	13 811	62 475	70 227		-71,6	4,1	1,6	
May	30 037	60 672	70 516		117,5	-2,9	0,4	
Jun	51 267	60 248	70 529		70,7	-0,7	0,0	
Jul	52 647	53 799	72 511		2,7	-10,7	2,8	
Aug	54 972	60 768	74 896		4,4	13,0	3,3	
Sep	57 118	62 349	75 764		3,9	2,6	1,2	
Oct	56 424	63 004	74 950		-1,2	1,1	-1,1	
Nov	56 702	65 309	75 675		0,5	3,7	1,0	
Dec	58 195	65 585	76 005		2,6	0,4	0,4	

Table 10 – Motor trade sales at current prices by type of activity (R million)

Type of activity	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23 1/
New vehicle sales	18 616	18 776	17 981	19 449	18 094	16 051
Used vehicle sales	14 215	14 440	14 567	14 773	12 111	13 121
Workshop income	4 545	4 930	4 368	4 743	4 020	3 880
Income from the sales of accessories	13 035	13 362	12 479	13 543	11 229	11 866
Income from fuel sales	24 328	23 979	24 227	24 003	25 528	22 113
Income from convenience store sales 2/	2 306	2 377	2 526	2 338	2 755	2 449
Total	**77 045**	**77 864**	**76 149**	**78 848**	**73 737**	**69 481**

1/ Figures are preliminary.
2/ Includes 'other' sales and trading income.

Table 11 – Year-on-year percentage change in motor trade sales at current prices by type of activity

Type of activity	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
New vehicle sales	22,3	22,4	23,1	23,6	29,3	5,9
Used vehicle sales	13,8	9,7	8,1	3,5	2,0	2,7
Workshop income	32,4	33,3	18,1	21,6	14,4	4,0
Income from the sales of accessories	16,6	13,4	6,0	7,8	4,2	4,3
Income from fuel sales	38,4	35,5	28,5	20,4	22,3	16,0
Income from convenience store sales 1/	11,9	13,1	12,1	4,9	8,4	11,5
Total	**24,3**	**22,1**	**17,8**	**14,9**	**16,0**	**8,0**

1/ Includes 'other' sales and trading income.

Table 12 – Contribution of each type of activity to the year-on-year percentage change in motor trade sales at current prices

Type of activity	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
New vehicle sales	5,5	5,4	5,2	5,4	6,4	1,4
Used vehicle sales	2,8	2,0	1,7	0,7	0,4	0,5
Workshop income	1,8	1,9	1,0	1,2	0,8	0,2
Income from the sales of accessories	3,0	2,5	1,1	1,4	0,7	0,8
Income from fuel sales	10,9	9,8	8,3	5,9	7,3	4,8
Income from convenience store sales 1/	0,4	0,4	0,4	0,2	0,3	0,4
Total	**24,3**	**22,1**	**17,8**	**14,9**	**16,0**	**8,0**

1/ Includes 'other' sales and trading income.

Analysis of revisions

Introduction

Preliminary monthly values for motor trade are published approximately seven weeks after the reference month, e.g. preliminary motor sales for March are published around mid-May. The preliminary values are revised the following month, using additional information received from respondents. This and other reasons for revising motor trade values from time to time are shown in the following revisions schedule.

Revisions schedule for motor trade

Reason for revision	Schedule
Additional information from respondents	Monthly (revision of previous month)
New sample	Annual (July reference month published in September)
New weights for motor deflators	Periodic, approximately four- to five-year intervals
New base year (year for constant prices)	Periodic, approximately four- to five-year intervals

Note that seasonally adjusted values are revised monthly.

Analysis

Revisions may be analysed in terms of several dimensions, namely rand values and/or growth rates (e.g. month-on-month percentage changes, year-on-year percentage changes); current prices and/or constant prices; seasonally adjusted and/or unadjusted data; totals and/or components; preliminary estimate compared with first revision and/or latest available revision; and various combinations of these options.

This analysis is confined to the following:

- Total motor trade, year-on-year growth rate, current prices, unadjusted.
- Preliminary growth rates are compared with the latest available revised growth rates, where the preliminary growth rate refers to the first year-on-year growth rate published for the month in question.
- Time period: January 2012 to December 2022.

Figure 5 shows the preliminary and revised growth rates (line chart, left vertical axis) and the difference between them (bar chart, right vertical axis, where difference = revised - preliminary).

Table 13 provides key results relating to revisions.

Figure 5 – Motor trade year-on-year growth rates: preliminary and revised

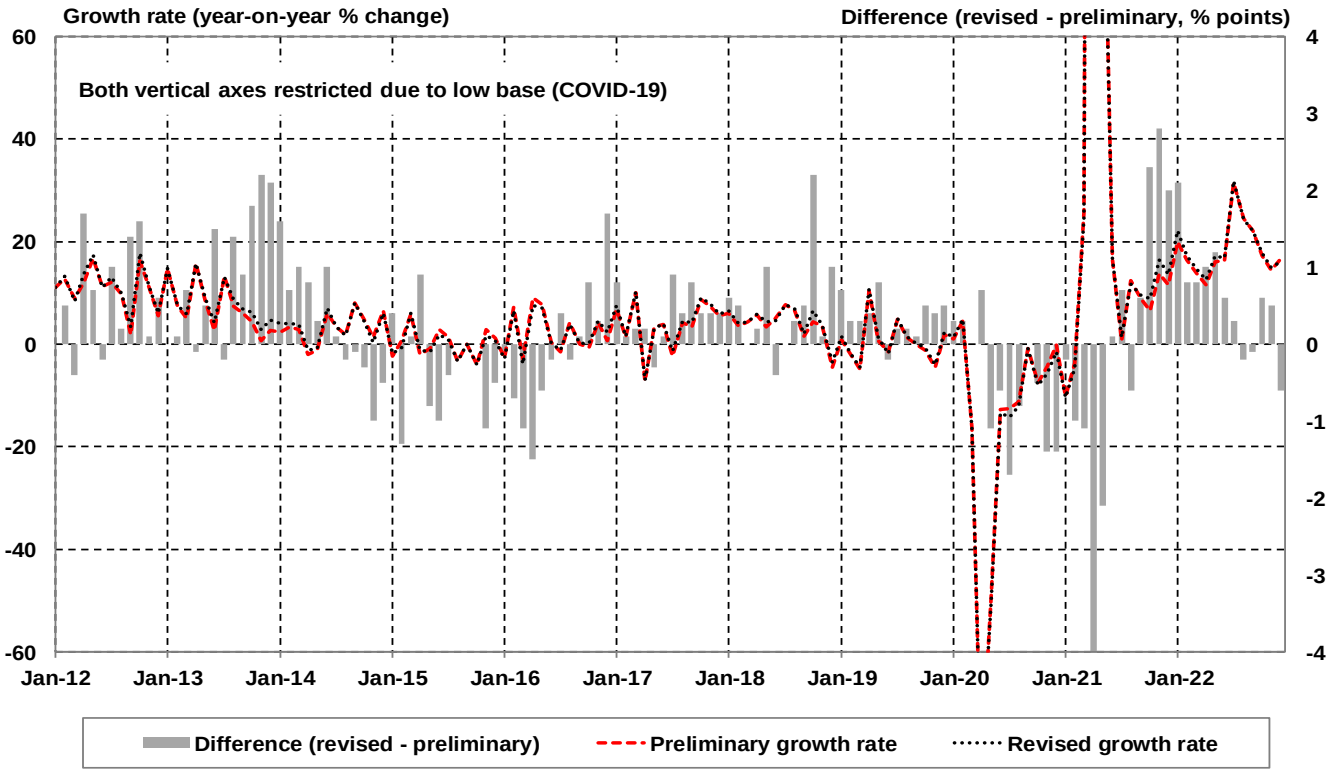


Table 13 – Motor trade year-on-year growth rates: preliminary and revised

Description	Value / outcome	Comment
Average year-on-year growth rate over the whole period	Preliminary: 8,49% Revised: 8,48%	The average of revised growth rates is slightly lower than the average of preliminary growth rates
Mean revision	-0,003 of a percentage point	This is the average of the revisions
Mean absolute revision	0,95 of a percentage point	Average of the revisions, but based on the absolute value of each revision (positives and negatives do not cancel each other)
Largest upward revision	2,8 percentage points	Preliminary 13,7% was revised up to 16,5% (November 2021)
Largest downward revision	-36,0 percentage points	Preliminary 528,8% was revised down to 492,8% (April 2021; affected by COVID-19)
Range for all revisions	-36,0 to 2,8 percentage points	
Range within which 90% of the revisions lie	-1,3 to 2,0 percentage points	This may be regarded as the normal range for revisions, with revisions outside this range being outliers
Number of upward revisions	82 (or 62,1% of the total observations)	

Description	Value / outcome	Comment
Number of downward revisions	41 (or 31,1% of the total observations)	
Number of zero revisions	9 (or 6,8% of the total observations)	
Is the mean revision (-0,003) significantly different from zero?	No	This indicates that there is no bias in the preliminary estimate – see Note 1 below
Standard deviation of the revisions	3,27 percentage points	Standard deviation is a measure of dispersion about the mean; the result is affected by COVID-19 – see the following two rows
Standard deviation of the revisions, based on 2012–2019	0,81 of a percentage point	
Percentage of revisions that lie within one standard deviation of the mean, based on 2012–2019	77,1%	This is the percentage of revisions that lie between -0,49 and 1,14 percentage points; the higher the percentage, the lower is the dispersion about the mean

Note 1: Is the mean revision significantly different from zero?

The formula for the test statistic is as follows:

$$test\ statistic = \frac{\bar{R}}{\sqrt{\left(\frac{1}{n(n-1)}\right)\left(\sum_{t=1}^{n}\hat{\varepsilon}_t^2 + \frac{3}{4}\sum_{t=2}^{n}\hat{\varepsilon}_t\,\hat{\varepsilon}_{t-1} + \frac{2}{3}\sum_{t=3}^{n}\hat{\varepsilon}_t\,\hat{\varepsilon}_{t-2}\right)}}$$

where

$n = number\ of\ observations$

$\bar{R} = mean\ revision$

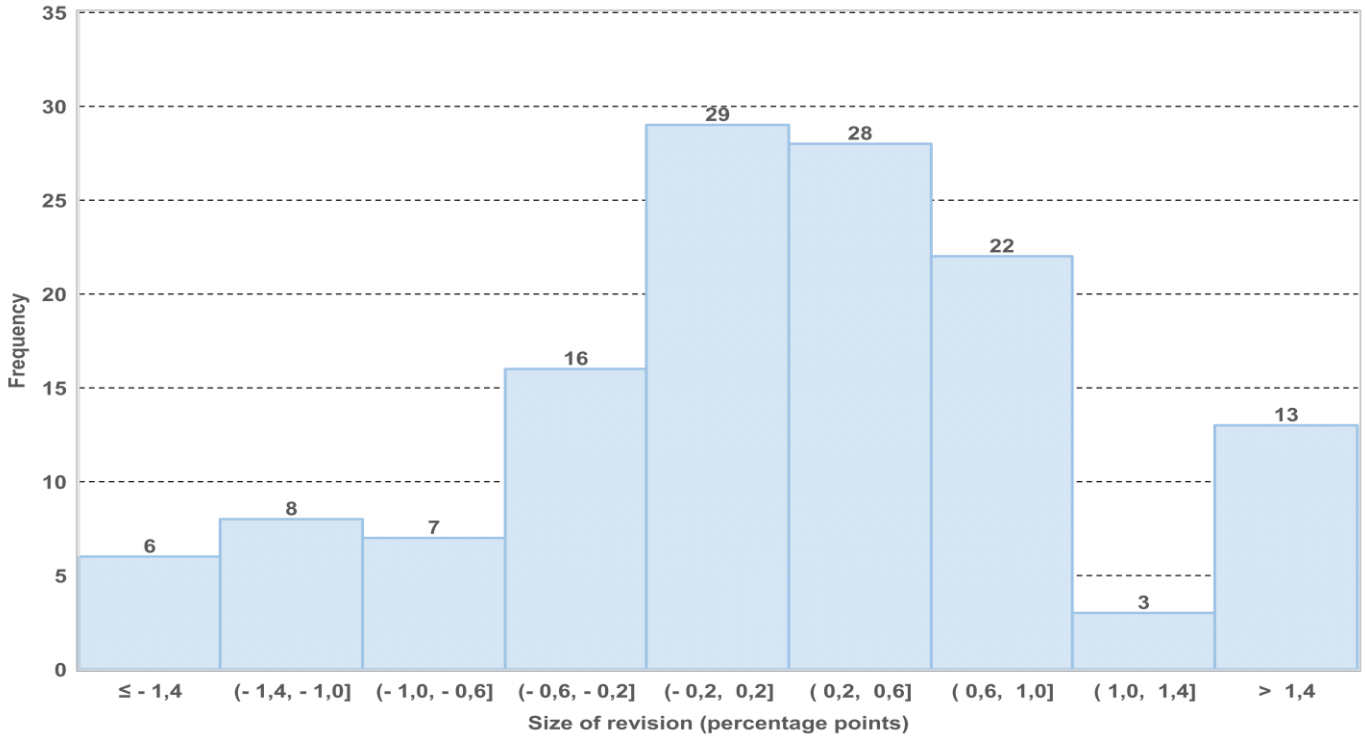
$\hat{\varepsilon}_t = R_t - \bar{R}, with\ R_t = revision\ in\ period\ t$

Note that if the test statistic shows that the mean revision (MR) is significantly different from zero, then there is bias in the preliminary estimates. Bias in a series suggests there is scope to enhance the compilation of that series in an attempt to remove or minimise the bias. MR > 0 (statistically significant) implies under-estimation of the preliminary estimates. MR < 0 (statistically significant) implies over-estimation of the preliminary estimates.

In this case the test statistic is -0,01, which has an absolute value below the critical value of 1,98, indicating that the MR is not significantly different from zero at a 5% significance level. Accordingly, no bias is detected in the preliminary estimates.

Figure 6 shows the revisions in terms of a histogram. There were 29 revisions between -0,2 and 0,2 (-0,2 < revision ≤ 0,2) and 28 revisions between 0,2 and 0,6 (0,2 < revision ≤ 0,6). 77,3% of revisions lay between -1,0 and 1,0 percentage point.

Figure 6 – Motor trade year-on-year growth rates: histogram of revisions



Survey information

Introduction

1 Statistics South Africa (Stats SA) conducts a monthly survey covering enterprises in the motor trade industry (see point 4 below). This survey is based on a sample drawn from Stats SA's 2022 business sampling frame (BSF) that contains businesses registered at the South African Revenue Service (SARS) for value-added tax (VAT). Stats SA continuously updates its BSF, which is linked to the SARS administrative data.

2 In order to improve timeliness, some information for the latest month had to be estimated due to late response. These estimates will be revised in future statistical releases as soon as information becomes available. Published motor trade sales estimates exclude VAT.

Purpose of the survey

3 The results of the monthly motor trade sales survey are used to compile estimates of the gross domestic product (GDP) and its components, which are used in monitoring the state of the economy and formulation of economic policy. These statistics are also used in the analysis of comparative business and industry performance.

Scope of the survey

4 The survey collects information from a sample of enterprises in South Africa that are predominantly involved in motor trade. These enterprises include:

- motor vehicle dealers, filling stations and workshops;
- motor cycle dealers;
- spares and accessories;
- tyre dealers;
- automotive electricians;
- radiator repairs;
- panel beaters and spray painters;
- 'other' specialised motor repair services; and
- 'other' motor trade.

Classification

5 The 1993 edition of the *Standard Industrial Classification of All Economic Activities* (SIC), Fifth Edition, Report No. 09-90-02, was used to classify the statistical units in the survey. The SIC is based on the 1990 *International Standard Industrial Classification of All Economic Activities* (ISIC) with suitable adaptations for local conditions. Each enterprise is classified to the industry which reflects its predominant activity. Statistics in this publication are presented at SIC group (four digits) level.

Collection rate

6 The preliminary collection rate for the survey on motor trade sales for January 2023 was 77,4%. The improved collection rate for December 2022 was 82,5%.

Statistical unit

7 The statistical unit for which information is compiled and published is the enterprise, defined as a legal unit or a combination of legal units that includes and directly controls all functions necessary to carry out its sales and service activities.

Revised figures

8 Revised figures are mainly due to late submission of data to Stats SA, or respondents reporting revisions or corrections to their figures. Preliminary figures, as indicated in the relevant tables, are subject to change and when revised will not be indicated as such.

Related publications

9 Users may also refer to the following publication available from Stats SA:

- *Stats in Brief* issued annually.

Rounding-off of figures **10** Where figures have been rounded off, discrepancies may occur between sums of the component items and the totals.

Historical data **11** Historical motor trade data are available on the Stats SA website. To access the data electronically, use the following link: Click to download historical data

Past publications **12** Past motor trade releases are available on the Stats SA website. To access the releases electronically, use the following link: Click to download past releases

Technical notes

Survey methodology and design **1** The survey is conducted monthly. Questionnaires are sent to a sample of 910 enterprises from a population of 10 328 enterprises. Completed questionnaires are required to be returned to Stats SA within 10 days after the end of the reference month. Email, fax and telephone reminders are used to follow up on non-respondents.

2 A stratified random sample was drawn in April 2022 from Stats SA's business sampling frame (BSF) at the SIC four-digit level. Strata were formed using a combination of SIC and the measure of size classes for enterprises (see point 3 below).

The Neyman optimal allocation formula given below was used to allocate samples to each stratum.

$$nh = n * (Nh * Sh) / [\Sigma (Ni * Si)].$$

Neyman allocation formula not only allocates sample sizes to each stratum but also calculates the relative precision for each stratum as well as the relative precision for all strata. The relative precision for these strata was 3,8%.

Class limits **3** Each motor trade classification group (SIC at four digit level) is divided into four size groups. All large enterprises (size group one) are completely enumerated. Simple random sampling is applied to medium and small enterprises (size groups two, three and four). The total value of sales of the large enterprises (size group one) per classification group is added to the weighted totals of size groups two, three and four to reflect the total value of sales.

Measure of size classes (Rand)

Enterprise size	Size group	Lower limit	Upper limit
Very small	4	2 334 640	18 000 000
Small	3	18 000 001	85 500 000
Medium	2	85 500 001	175 500 000
Large	1	175 500 001	

Sample weighting **4** For those strata not completely enumerated, the weights to produce estimates are the inverse ratio of the sampling fraction, modified to take account of non-response in the survey. Stratum estimates are calculated and then aggregated with the completely enumerated stratum to form classification group estimates. These procedures are consistent with international best practice.

Seasonal adjustment

5 Seasonally adjusted estimates are generated each month using the X-12-ARIMA Seasonal Adjustment Program developed by the United States Census Bureau. Seasonal adjustment is a means of removing the estimated effects of normal seasonal variation from the series so that the effects of other influences on the series can be recognised more clearly. Seasonal adjustment does not aim to remove irregular or non-seasonal influences which may be present in any particular month. Influences that are volatile or unsystematic can still make it difficult to interpret the movement of the series even after adjustment for seasonal variations. Therefore the month-to-month movements of seasonally adjusted estimates may not be reliable indicators of trend behaviour. The X-12-ARIMA procedure for motor trade sales is described in more detail on the Stats SA website at:
Click to download seasonal adjustment motor trade sales January 2023

Trend cycle

6 The trend is the long-term pattern or movement of a time series. The X-12-ARIMA Seasonal Adjustment Program is used for smoothing seasonally adjusted estimates to estimates of the underlying trend cycle.

Constant prices

7 Motor trade sales at constant prices by type of activity are obtained by deflating estimated sales at current prices by the relevant weighted price index. To obtain total motor trade sales at constant prices, estimates of the deflated sales for each type of activity are aggregated.

Reliability of estimates

8 Data presented in this publication are based on information obtained from a sample and are, therefore, subject to sampling variability; that is, they may differ from the figures that would have been produced if the data had been obtained from all enterprises in the motor trade industry in South Africa. Estimates are subject to sampling and non-sampling errors.

9 Inaccuracies may occur because of imperfections in reporting by enterprises and errors made in the collection and processing of the data. Inaccuracies of this kind are referred to as non-sampling errors. Every effort is made to minimise non-sampling errors by careful design of questionnaires, testing them in pilot studies, editing reported data and implementing efficient operating procedures. Fluctuations may occur in consecutive months as a result of seasonal and economic factors.

Relative standard error

10 One measure is the standard error (SE), which indicates the extent to which an estimate might have varied by chance because only a sample of enterprises was used. The relative standard error (RSE) provides an immediate indication of the percentage errors likely to have occurred due to sampling, and thus avoids the need to refer to the size of the estimate.

Estimates of total motor trade sales within 95% confidence limits – January 2023

	Upper limit (R million)	Sales (R million)	Upper limit (R million)	Relative standard error (RSE) %
Motor trade sales	65 120	69 481	73 842	3,2

Month-on-month percentage change

11 The month-on-month percentage change in a variable for any given month is the change between that month and the previous month, expressed as a percentage of the latter.

Year-on-year percentage change

12 The year-on-year percentage change in a variable for any given period is the change between that period and the corresponding period of the previous year, expressed as a percentage of the latter.

Contribution (percentage points)

13 The contribution (percentage points) to the year-on-year percentage change is calculated by multiplying the percentage change of each type of activity by its corresponding weight, divided by 100. The weight is the percentage contribution of each type of activity to total motor trade sales in the corresponding period of the previous year.

Glossary

Enterprise

An enterprise is a legal entity or a combination of legal units that includes and directly controls all functions necessary to carry out its sales activities.

Industry

An industry is made up of enterprises engaged in the same or similar kinds of economic activity. Industries are defined in the *System of National Accounts* (SNA) in the same way as in the *Standard Industrial Classification of All Economic Activities* (SIC), Fifth Edition, Report No. 09-90-02 of January 1993.

Symbols and abbreviations

BSF	Business sampling frame
GDP	Gross domestic product
ISIC	International Standard Industrial Classification
IT	Income tax
Rm	Rand million
SIC	Standard Industrial Classification of All Economic Activities
SARS	South African Revenue Service
Stats SA	Statistics South Africa
VAT	Value-added tax

Technical enquiries

Peter Makota
Telephone number: (012) 310 4837
Email: petermak@statssa.gov.za

Keshnee Naidoo
Telephone number: (072) 310 3798
Email: keshneen@statssa.gov.za

General information

Stats SA publishes approximately 300 different statistical releases each year. It is not economically viable to produce them in more than one of South Africa's eleven official languages. Since the releases are used extensively, not only locally but also by international economic and social-scientific communities, Stats SA releases are published in English only.

Advance release calendar

A release calendar is disseminated on www.statssa.gov.za

Stats SA products

A complete set of Stats SA publications is available at the Stats SA Library and the following libraries:

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Natal Society Library, Pietermaritzburg
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Eastern Cape Library Services, Qonce
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Central Reference Library, Mbombela
Central Reference Collection, Kimberley
Central Reference Library, Mmabatho

Stats SA also provides a subscription service.

Electronic services

A large range of data is available via online services. For more detail about our electronic services, contact Stats SA’s user information service at (012) 310 8600.

You can visit us on the internet at: www.statssa.gov.za

General enquiries

User information services	Telephone number: (012) 310 8600 Email address: info@statssa.gov.za
Orders/subscription services	Telephone number: (012) 310 8619 Email address: millies@statssa.gov.za
Postal address	Private Bag X44, Pretoria, 0001

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