Estimates of Employment in South Africa Under the Five-Level Lockdown Framework

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Summary

During the COVID-19 pandemic and response, an important question, from both a health and economic policy perspective, is how many workers are able to return to work as the lockdown is eased and tightened in response to the spread of the virus. Using a static analysis derived from industry subsectors, we estimate employment allowed under each level of the five-level lockdown framework. We estimate that under level five of the lockdown framework, 40% of total employment is permitted, or 6.6 million workers. This rises to 55% (9.2 million) under level four; 71% (11.8 million) under level three; 94% (15.6 million) under level two and 100% under level one. This is a static analysis and assumes that no jobs are lost as a result of a lockdown. As such, its principle use is as a distributional analysis of the share of workers permitted to work under each level of the lockdown.

Table 1: High-level employment estimates

Lockdown Level	Employment Permitted
Level 5	6 574 268
	40%
Level 4	9 205 131
	55%
Level 3	11 817 506
	71%
Level 2	15 593 772
	94%
Level 1	16 640 795
	100%
Total 2019 Q4 Employment	**16 640 795**

Source: Quarterly Labour Force Survey 2019 Q4 (Statistics South Africa, 2019).

Overview

The SARS-CoV-2 virus and the associated Covid-19 pandemic have had a significant impact on the economy. The strategy of a lockdown to mitigate the risks of the pandemic will have long term impacts on employment. The move to a risk-assessed five-level lockdown framework in South Africa has raised the

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important question of who will be working at each level. This is a vital question if we are to understand the effects of the tiered lockdown system on the labour market, incomes, and the economy more broadly. In this work we build on the research of Andrew Kerr and Amy Thornton who have estimated the number of essential service works, and those able to work from home under the lockdown, prior to the adoption of the risk adjusted approach to re-opening the economy. They estimate that 26.7% of workers (4.5 million) are employed in essential services, and a further 13.8% (2 million) are able to work from home. As many as 63% of all workers are neither essential nor able to work from home. At 10.5 million workers, this is a majority of workers in the South African labour market (Kerr & Thornton, 2020).

In related work, Bhorat et al., (2020) have analysed physical distancing in economic activity in South Africa by occupation. Miriam Altman has presented several economic scenarios for the COVID-19 response and the related employment levels (Altman, 2020). While we present a static analysis of jobs under each level (assuming no job losses), Altman presents a range of scenarios and related employment estimates. In forthcoming work we will, among other things, relax the assumption that everyone who is able to return to work has a job to return to, and estimate job losses under each of the five levels of lockdown. The static approach we present here is useful for analysts and policymakers to understand, at the maximum, how many workers are able to return to work at the different levels. This is useful, for example, for understanding the likely impacts on public transport and the health risks that might follow from relaxing the lockdown.

In this paper we present our estimates of the number of people able to work at each level of the lockdown by sector and subsector in the South African economy. It is important to note that we estimate the number of people able to *work* under each level – we exclude those who are paid to work but unable to do so.

Approach

We draw on the Quarterly Labour Force Survey: Quarter 4 2019, and the Schedule of Services Framework for Sectors to construct our estimates. The entire population of people aged 16-64 years old is approximately 39 million people (38 727 000). Stats SA reports that amongst this working age population the labour force is made up of the employed 16 million people (16 420 000) and the unemployed 7 million people (6 726 000). The rest of the working age population not in the labour force include those who are not economically active as well as discouraged work seekers, totalling 16 million (15 581 000) people. The official unemployment rate was 29% at the end of last year (Statistics South Africa, 2019).

Figure 1: Employment and Unemployment in South Africa 2019
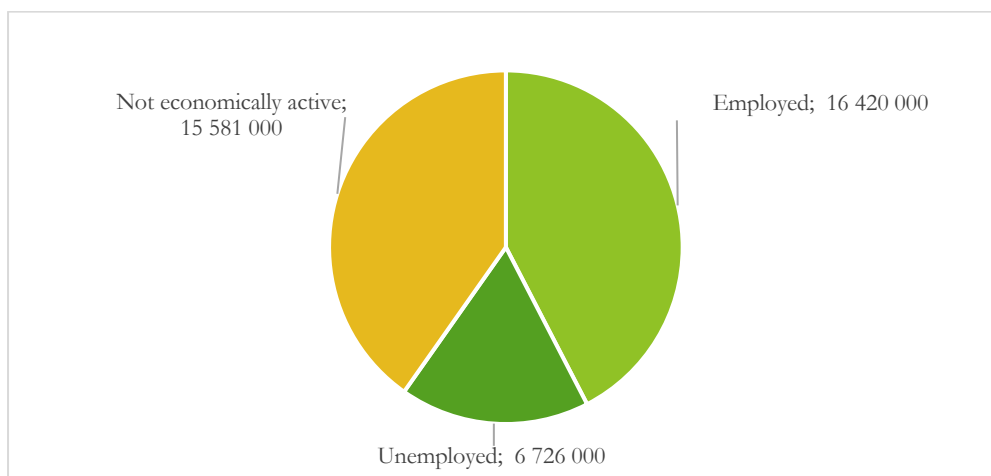
Source: Quarterly Labour Force Survey 2019 Q4 (Statistics South Africa, 2019).

In understanding geographical considerations around the pandemic, it is worth noting that three provinces in South Africa account for the largest number of employed people in the country. These are the Western Cape (2 518 000), KwaZulu-Natal (2 664 000) and Gauteng (5 098 000). Together they make up 63% of all employment.

Methodology

Our estimates aim to determine how many people will return to work, either physically or from home, at the different levels of the lockdown, according to the five-level plan unveiled on 26 April 2020. We do this by generating estimates of sub-sectoral employment from the most recent reliable labour force data, the Quarterly Labour Force Survey (QLFS) for the fourth quarter of 2019, and adjusting these figures by the estimated number of workers that can work in each sub-sector at each of the five levels All sub-sectoral employment estimates were generated using population weights and accounting for survey design. One of the most valuable aspects of the QLFS is that it groups the employed into detailed sub-sectors according to the three-digit Standard Industry Code (SIC) framework. The International Standard Industrial Classifications (ISIC) and the International Standard Occupation Classifications (ISOC) standards were used to ensure consistency between the QLFS and the Schedule of Services Framework, where there were no clear matches. Our methodology for addressing these instances is outlined below. As noted above, we estimate those who are actually working under each of the levels and we exclude those who are being paid to work but are not working (for example, school teachers under level 5 and level 4 of the lockdown).

Estimating employment for fine-grained subs-sectors enabled us to apply highly specific assumptions about which sub-sectors would return to work at which level. More information on each subsector, including the standard errors and confidence intervals can be found in the appendix. These assumptions were informed by the Schedule of Services Framework for Sectors (COGTA, 2020) and other extensive research of current legislation, and media reports. It is worth noting that legislation only exists for level four at this point (Disaster Management Act, 2002. Regulations Issued in Terms of Section 27(2) of the Disaster Management Act, 2020). Our estimates for level four were also, in part, informed by media reports of who was de facto able to work under level four.

For each subsector, we applied or estimated the percentage of workers that are allowed to work under each of the five levels of the draft lockdown regulations. For example, under level five, for wholesale and retail trade, no restaurants, bars or shebeens are allowed to operate, and so employment for these subsectors is set to 0%. Conversely, the retail sale of automotive fuel is permitted, and so this subsector is set to 100% percent. Other subsectors are permitted to operate at, for example 50% or 75% and these percentages are assigned to each subsector. We then aggregate each of the subsectors for a more accurate sectoral estimate of employment under each of the five levels, and these estimates are presented in Table 2 below.

The fine-grained distinctions unfortunately increase the uncertainty of sub-sectoral estimates, many of which are based on small sample sizes, leading to large standard errors and wide confidence intervals, as reflected in the appendix. This must be balanced against the advantages of the methodology, and the fact that what we are ultimately interested in are more aggregated totals rather than these small groups.

The Schedule of Services Framework for Sectors does not correspond precisely to the three-digit SIC subs-sector classification, a which necessitated the adoption of various assumptions in the model. We set out these and other assumptions here:

- Aggregate demand and aggregate supply will return to the same level they were at in quarter four of 2019. This assumption implies that employment levels will return in level one of the lockdown. This is obviously an unrealistic assumption, but this does not detract from the exercise to establish, at the maximum, how many workers might be working at the different levels.

- The lockdown levels are national and homogenous. Entire provinces will go back to work, despite the fact that certain regions may have different restriction levels to others; and that entire sectors will go back despite the possibility that portions of the sectors may be in areas with different levels of restrictions.

- There is a constant capital to labour ratio. This assumption is noteworthy in its effect on the occupations of workers in skilled agricultural, crafted and related trade workers, as well as plant and machine operators. This means that if a given industry is permitted to return to work at 30%, both labour and capital will be used at 30% of their total capacity.

- Where the Schedule of Services Framework for Sectors does not provide enough detail about the rate at which certain sectors will be allowed to operate, a 'phase-in' assumption was made that assumed an integrated reopening of a given sector at 10%, 25%, 50%, 75% and 100%.

- Assumptions or calculations made by industry are set first, then occupational determinants are considered.

Detailed assumptions are included in the excel spreadsheet on each sector. This spreadsheet can be found HERE.

Results

In this paper we provide high-level estimates at the sector level. These have been generated from the sub-sector level in each sector. For brevity, we have aggregated the subsectors and present the sector estimates here. Total employment at the end of 2019 in South Africa was 16 640 795 according to the QLFS. This includes workers in both formal and informal employment: 10 933 092 formally employed and 4 907 311 informally employed workers were identified in the fourth quarter of 2019 in the QLFS. This estimate is based on the supplied informality variable in the QLFS which identifies formal and informal employment, rather than the formal and informal sector. The breakdown of total employment by sector is presented in Figure 2. The three largest sectors are community, social and personal services (CSP), with 3.8 million employees; wholesale and retail trade with 3.3 million employees; and finance, intermediation and insurance, with 2.6 million employees.

Figure 2: Sector Employment 2019 Q4
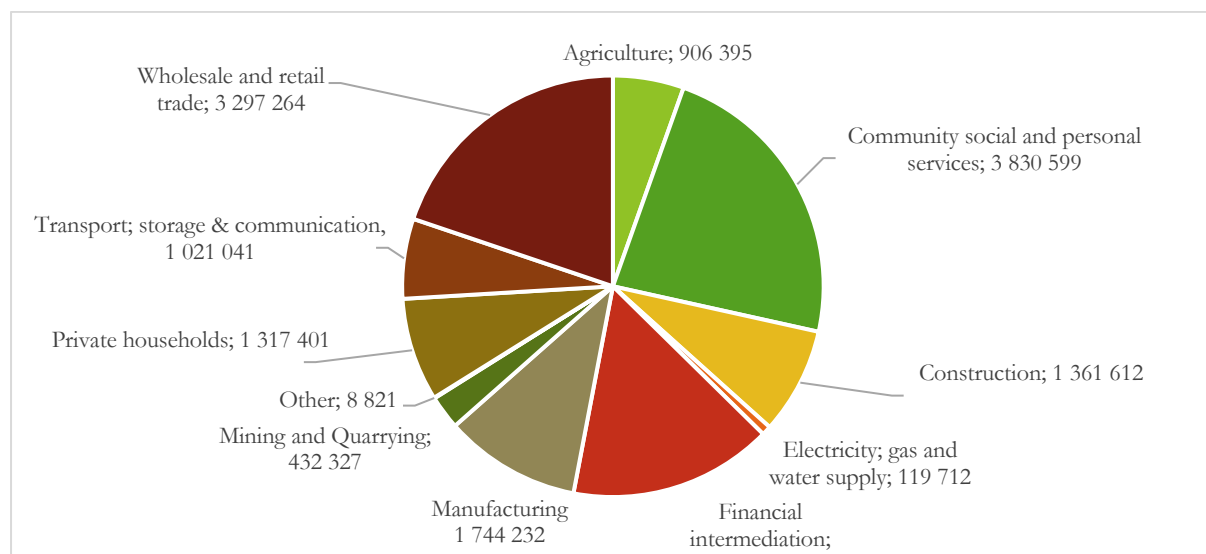
Source: Quarterly Labour Force Survey 2019 Q4 (Statistics South Africa, 2019).

Table 2 presents our estimates of employment, by sector, at each of the levels of the five-level framework. As highlighted above, it is important to note that this table reflects those that are able to work under each level of the regulations. It does not distinguish between those who work at home or physically at their place of work.

Under level five lockdown, we estimate that 6.5 million people, or 40% of employees, are able to work. The sectors with the greatest limitations on workers are private households, where only 1% of employees are able to work; transport, storage and communication at 19%, and mining and quarrying at 33%. In terms of the absolute numbers, just under 2 million employees are unable to work under level five in both community, social and personal services, as well as wholesale and retail trade.

Under level four lockdown, we estimate that 55% of all workers are able to work, or 9.2 million people. Under level three, this rises to 71%, or 11.8 million. By level two, 94% of employees are able to work – a total of 15.6 million. We assume that under level one, all employees are able to return to work in some form.

Table 2: Employment by sector (formal and informal)

Industry	Employed people Q4 2019	Level 5		Level 4		Level 3		Level 2		Level 1	
Agriculture	906 395	845 894	93%	906 395	100%	906 395	100%	906 395	100%	906 395	100%
CSP	3 830 599	1 972 004	51%	2 505 265	65%	3 430 913	90%	3 512 166	92%	3 830 599	100%
Construction	1 361 612	136 161	10%	340 403	25%	680 806	50%	1 361 612	100%	1 361 612	100%
Electricity; gas, water supply	119 712	119 712	100%	119 712	100%	119 712	100%	119 712	100%	119 712	100%
Financial intermediation; insurance	2 601 392	1 224 319	47%	1 836 478	71%	1 909 473	73%	2 594 627	100%	2 601 392	100%
Manufacturing	1 744 232	600 459	34%	1 063 922	61%	1 477 306	85%	1 743 376	100%	1 744 232	100%
Mining, Quarrying	432 327	141 392	33%	277 426	64%	432 327	100%	432 327	100%	432 327	100%
Other	8 821	3 315	38%	8 821	100%	8 821	100%	8 821	100%	8 821	100%
Private households	1 317 401	18 733	1%	278 591	21%	278 591	21%	1 317 401	100%	1 317 401	100%
Transport; storage, communication	1 021 041	198 152	19%	320 529	31%	534 575	52%	765 889	75%	1 021 041	100%
Wholesale, retail trade	3 297 264	1 314 129	40%	1 547 592	47%	2 038 589	62%	2 831 448	86%	3 297 264	100%
Total	16 640 795	6 574 268	40%	9 205 131	55%	11 817 506	71%	15 593 772	94%	16 640 795	100%

Source: Quarterly Labour Force Survey 2019 Q4 (Statistics South Africa, 2019).

The current five-level framework has been developed largely to respond to health requirements under each level, and is based on assumptions about the safety of workers in different sectors. Other considerations include the expected impact on a given sector of continued lockdown taking into consideration prior vulnerability, as well as the value of a given sector to the economy, measured for example, through its contribution to GDP, multiplier effects and export earnings. To our knowledge, the framework was not delivered with an explicit focus on the levels of employment which would result under each level. We suggest that the above information should be part of the risk-based strategy to move between levels. For example, the move from level four to level three permits only an estimated 2.5 million additional workers to return to work. However, the move from level three to level two permits an estimated 3.8 million additional workers to return to work. This is a significant increase, and must surely factor in any risk-based adjustment given the impact of this on the livelihoods of these workers and the broader economy. Conversely, the employment benefits of moving from level two to level one are more moderate.

Gender and Employment

To examine the how the ability to work differs by gender, and to focus on how women workers have been affected by the lockdown, we now present the estimates of how many women are able to work in each sub-sector and each lockdown level. Once again we do this by generating estimates of the number of women employed in each sub-sector and multiplying this by the assumed proportion of workers who are able to work in that sub-sector at each level. In using the same proportions we used in the table for all workers, we are assuming that women and men will be equally affected by employment cuts (and reintroductions) at each level. If, for example, occupational differentiation or discrimination make it more likely that men would be employed before women in a certain sub-sector, then this assumption would lead to an overestimation of women's employment in that sub-sector.

In total, we estimate that women account for 7.3 million of the total employment of 16.6 million, or 43.9% of all employment, as reflected in Table 3, below. In estimating the gendered impact of the five-level lockdown, we are primarily interested in two indicators. The first and most important is to understand which sectors comprise the bulk of women's employment. This is reflected in the column "Percentage of total female employment". Secondly, we are interested in understanding which sectors employ the largest proportion of women. Here this is reflected in the column "Percentage female".

It is clear that the sector that employs the majority of women is community, social and personal services (CSP), which accounts for 2.4 million women, or 32% of total female employment. This is followed by wholesale and retail trade at 1.5 million (or 20%). In terms of sectors where the majority of employment is female, these are private households at 76%, CSP at 62% and wholesale and retail trade at 45%. As noted above, given the methodology we have used, we assume that an equal percentage of men and women is allowed to work in each subsector under each level. However, a gendered analysis will become particularly important in the next phase of our research when we estimate the distribution of job losses. Early evidence from other countries shows that job losses as a result of the COVID-19 crisis are disproportionately in the services sectors, including trade and CSP. As these sectors employ a high proportion of women, women are disproportionately affected by job losses in these sectors (U.S. Bureau of Labour Statistics, 2020).

Table 3: Distribution of female employment

Industry	Employed people Q4 2019	Employed Females Q4 2019	Percentage Female	Percentage total of female employment	Level 5	Level 4	Level 3	Level 2	Level 1
Agriculture	906 395	308 021	34.0%	4%	293 486	308 021	308 021	308 021	308 021
Construction	1 361 612	146 292	10.7%	2%	14 629	36 573	73 146	146 292	146 292
CSP	3 830 599	2 364 389	61.7%	32%	1 197 391	1 583 133	2 176 886	2 221 136	2 364 389
Electricity; gas, water supply	119 712	35 564	29.7%	0%	35 564	35 564	35 564	35 564	35 564
Financial intermediation; insurance	2 601 392	1 077 567	41.4%	15%	505 753	758 630	791 660	1 077 567	1 077 567
Manufacturing	1 744 232	614 672	35.2%	8%	265 003	398 760	540 527	614 672	614 672
Mining, Quarrying	432 327	71 996	16.7%	1%	24 667	47 277	71 996	71 996	71 996
Other	8 821	7 467	84.7%	0%	880	7 467	7 467	7 467	7 467
Private households	1 317 401	998 415	75.8%	14%	15 599	998 415	998 415	998 415	998 415
Transport; storage, communication	1 021 041	196 605	19.3%	3%	55 548	74 574	109 163	149 282	196 605
Wholesale, retail trade	3 297 264	1 491 503	45.2%	20%	616 631	740 993	914 738	1 242 627	1 491 503
Total	16 640 795	7 312 491	43.9%	100%	3 025 150	4 989 407	6 027 583	6 873 039	7 312 491

Source: Quarterly Labour Force Survey 2019 Q4 (Statistics South Africa, 2019).

Conclusions and further work

Our estimates here are provided to assist policy makers to understand the employment effects of the five-level lockdown and to inform any amendments to the regulations. We find that the level five results in a significant reduction in the number of people allowed to work, and that there is a non-linear progression in terms of additional workers as one moves between level five and level one. It is important that this information is considered by policy makers in order to mitigate the worst employment effects of the different levels. It is also important that the gendered distribution of work is considered in any amendments to the framework.

As we have noted, we present a static analysis here, which assumes that employment would return to pre-crisis levels. Of course this is not a realistic assumption, and the value of this work is in the distributional picture it provides. In forthcoming work we will estimate the employment effects based on sectoral employment elasticities of growth in an attempt to understand the distribution of job losses. Furthermore, our analysis here includes both informal and formal workers and does not assume differential effects. In reality, the nature of the lockdown regulations means that they are particularly deleterious for informal workers, and the different levels will most likely have a differential effect on formal and informal workers.

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Appendix

Table 4: Weighted Population Estimates, Standard Errors and Confidence Intervals

Industry	No.	SE	CI
10. PRIVATE HOUSEHOLDS WITH EMPLOYED PERSONS	1,317,400.5	(34,819.4)	[1,249,151.0,1,385,649.9]
20. EXTERRITORIAL ORGANISATIONS	1,555.0	(1,555.0)	[-1,492.9,4,602.8]
30. REPRESENTATIVES OF FOREIGN GOVERNMENTS	7,265.6	(4,021.0)	[-616.0,15,147.3]
111. Growing of crops	533,366.1	(20,516.0)	[493,152.6,573,579.5]
112. Farming of animals	234,579.0	(14,923.8)	[205,326.9,263,831.2]
113. Growing of crops combined with farming of animals(mixed farming)	58,038.0	(7,166.0)	[43,992.0,72,084.0]
114. Agricultural and animal husbandry services, except veterinary activities	1,715.7	(991.9)	[-228.6,3,660.0]
115. Game hunting, trapping and game propagation, including related services	2,837.7	(1,480.0)	[-63.2,5,738.6]
116. Production of organic fertilizer	7,465.9	(3,069.6)	[1,449.2,13,482.6]
121. Forestry and related services	41,739.9	(6,633.7)	[28,737.2,54,742.6]
122. Logging and related services	18,760.3	(5,093.7)	[8,776.0,28,744.5]
131. Ocean and coastal fishing	3,742.7	(1,955.0)	[-89.3,7,574.7]
132. Fish hatcheries and fish farms	4,149.2	(1,857.9)	[507.5,7,790.9]
210. mining of coal and lignite	83,275.1	(9,101.2)	[65,435.7,101,114.4]
230. Mining of gold and uranium ore	72,895.2	(8,279.4)	[56,666.8,89,123.7]
241. Mining of iron ore	22,421.5	(3,653.9)	[15,259.5,29,583.4]
242. Mining of non-ferrous metal ores	215,228.4	(13,100.5)	[189,550.1,240,906.7]
251. Stone quarrying, clay and sandpits	4,137.9	(2,017.5)	[183.3,8,092.5]
252. Mining of diamonds (including alluvial diamonds)	10,653.1	(3,185.4)	[4,409.4,16,896.8]
253. Mining and quarrying N.E.C.	23,715.5	(5,289.9)	[13,346.9,34,084.2]
301. Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats	98,346.9	(10,716.8)	[77,340.9,119,352.9]
302. Manufacture of dairy products	42,812.2	(7,882.9)	[27,361.0,58,263.4]
303. Manufacture of grain mill products, starches and starch products and prepared animal feeds	23,406.6	(5,022.6)	[13,561.8,33,251.4]
304. Manufacture of other food products	123,287.0	(11,723.2)	[100,308.4,146,265.6]
305. Manufacture of beverages	85,324.4	(10,411.9)	[64,916.1,105,732.7]
306. MANUFACTURE OF TOBACCO PRODUCTS	1,235.4	(873.7)	[-477.2,2,947.9]
311. Spinning, weaving and finishing of textiles	13,638.0	(3,979.8)	[5,837.1,21,438.8]
312. Manufacture of other textiles	39,461.4	(6,826.4)	[26,081.0,52,841.8]
313. Manufacture of knitted and crocheted fabrics and articles	6,406.8	(2,543.5)	[1,421.3,11,392.3]
314. Manufacture of wearing apparel, except fur apparel	162,817.8	(13,263.2)	[136,820.6,188,814.9]
316. Tanning and dressing of leather; manufacture of luggage, handbag,	8,076.4	(3,610.0)	[1,000.4,15,152.5]
317. Manufacture of footwear	14,456.6	(3,857.6)	[6,895.3,22,018.0]
321. Sawmilling and planing of wood	11,629.5	(3,252.8)	[5,253.6,18,005.3]
322. Manufacture of products of wood, cork, straw and plaiting material	54,595.6	(8,145.0)	[38,630.5,70,560.7]
323. Manufacture of paper and paper products	55,407.2	(7,858.9)	[40,002.9,70,811.5]
324. Publishing	16,340.9	(4,688.8)	[7,150.3,25,531.4]
325. Printing and service activities related to printing	38,387.5	(6,301.3)	[26,036.3,50,738.8]

331. Manufacture of coke oven products	919.3	(919.3)	[-882.6,2,721.3]
332. Petroleum refineries / synthesisers	35,691.7	(6,010.8)	[23,909.9,47,473.5]
333. PROCESSING OF NUCLEAR FUEL	1,019.2	(1,019.2)	[-978.6,3,017.1]
334. Manufacture of basic chemicals	9,480.2	(2,870.4)	[3,854.0,15,106.4]
335. Manufacture of other chemical products	105,728.7	(11,805.9)	[82,588.0,128,869.5]
337. Manufacture of rubber products	18,924.4	(4,862.7)	[9,393.0,28,455.7]
338. Manufacture of plastic products	53,363.3	(7,361.5)	[38,934.0,67,792.6]
341. Manufacture of glass and glass products	15,740.8	(4,433.7)	[7,050.2,24,431.3]
342. Manufacture of non-metallic mineral products N.E.C.	112,478.6	(11,528.2)	[89,882.1,135,075.1]
351. Manufacture of basic iron and steel	80,631.4	(9,541.6)	[61,928.8,99,334.0]
352. Manufacture of basic precious and non-ferrous metals	16,613.6	(4,402.9)	[7,983.6,25,243.6]
353. Casting of metals	763.6	(763.6)	[-733.2,2,260.4]
354. Manufacture of structural metal products, tanks, reservoirs and steam generators	71,408.0	(9,072.5)	[53,625.0,89,191.1]
355. Manufacture of other fabricated metal products; metalwork service activities	79,235.2	(9,559.4)	[60,497.9,97,972.5]
356. Manufacture of general purpose machinery	27,170.3	(5,751.4)	[15,897.0,38,443.6]
357. Manufacture of special purpose machinery	45,003.4	(7,433.9)	[30,432.3,59,574.5]
358. Manufacture of household appliances N.E.C.	15,648.6	(4,330.8)	[7,159.8,24,137.3]
361. Manufacture of electric motors, generators and transformers	8,609.3	(3,395.7)	[1,953.4,15,265.2]
362. Manufacture of electricity distribution and control apparatus	5,587.1	(2,969.9)	[-234.2,11,408.3]
363. Manufacture of insulated wire and cable	6,259.2	(3,948.6)	[-1,480.4,13,998.7]
364. Manufacture of accumulators, primary cells and primary batteries	615.9	(615.9)	[-591.3,1,823.0]
365. Manufacture of electric lamps and lighting equipment	9,579.1	(3,107.8)	[3,487.5,15,670.7]
371. Manufacture of electronic valves and tubes and other electronic components	2,482.0	(1,801.1)	[-1,048.3,6,012.3]
372. Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	4,258.3	(2,462.4)	[-568.3,9,084.9]
373. Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	1,081.1	(1,081.1)	[-1,037.9,3,200.1]
374. Manufacture of medical appliances and instruments and appliances for measuring, checking, testing, navigating and for other purposes except optical instruments	13,309.0	(5,711.9)	[2,113.1,24,504.8]
375. Manufacture of optical instruments and photographic equipment	820.3	(820.3)	[-787.5,2,428.0]
376. Manufacture of watches and clocks	685.6	(685.6)	[-658.2,2,029.4]
381. Manufacture of motor vehicles	51,766.4	(8,408.7)	[35,284.4,68,248.3]
382. Manufacture of bodies (coachwork) for motor vehicles;	4,270.7	(1,839.1)	[665.9,7,875.5]
383. Manufacture of parts and accessories for motor vehicles and their engines	42,943.3	(6,537.1)	[30,129.9,55,756.6]
385. Manufacture of railway and tramway locomotives and rolling stock	364.5	(364.5)	[-349.9,1,078.8]

386. Manufacture of aircraft and spacecraft	951.1	(751.1)	[-521.0,2,423.3]
387. MANUFACTURE OF TRANSPORT EQUIPMENT N.E.C.	2,863.0	(1,708.9)	[-486.6,6,212.5]
391. Manufacture of furniture	65,999.8	(8,873.0)	[48,607.8,83,391.7]
392. Manufacturing N.E.C...	11,374.0	(2,861.3)	[5,765.6,16,982.5]
395. Recycling N.E.C.	24,961.8	(5,511.6)	[14,158.4,35,765.1]
411. Production, collection and distribution of electricity	80,883.7	(10,206.0)	[60,879.0,100,888.5]
412. Manufacture of gas; distribution of gaseous fuels through mains	7,915.4	(3,038.8)	[1,959.0,13,871.9]
420. COLLECTION, PURIFICATION AND DISTRIBUTION OF WATER	30,913.0	(5,951.6)	[19,247.2,42,578.7]
501. Site preparation	6,484.5	(2,806.0)	[984.5,11,984.5]
502. Building of complete constructions or parts thereof; civil engineering	904,770.0	(31,111.4)	[843,788.6,965,751.4]
503. Building installation	266,522.6	(17,380.3)	[232,455.5,300,589.6]
504. Building completion	183,834.7	(14,109.5)	[156,178.6,211,490.8]
611. Wholesale trade on a fee or contract basis	24,726.9	(5,534.9)	[13,877.9,35,575.9]
612. Wholesale trade in agricultural raw materials, livestock, food, beverages and tobacco	54,230.5	(7,332.9)	[39,857.2,68,603.7]
613. Wholesale trade in house-hold goods	13,256.8	(3,883.9)	[5,644.1,20,869.6]
614. Wholesale trade in non-agricultural intermediate products, waste and scrap	66,310.2	(8,359.8)	[49,924.1,82,696.3]
615. Wholesale trade in machinery, equipment and supplies	5,629.9	(2,362.0)	[1,000.0,10,259.7]
619. Other wholesale trade	3,505.6	(2,055.4)	[-523.2,7,534.5]
621. Non-specialised retail trade in stores	457,676.7	(21,823.2)	[414,901.1,500,452.3]
622. Retail trade in food, beverages and tobacco in specialised stores	128,926.3	(11,934.4)	[105,533.8,152,318.9]
623. Other retail trade in new goods in specialised stores	606,000.2	(26,315.0)	[554,420.3,657,580.1]
624. Retail trade in second-hand goods in stores	2,699.6	(1,977.0)	[-1,175.4,6,574.7]
625. Retail trade not in stores	742,654.4	(26,339.7)	[691,026.0,794,282.8]
626. Repair of personal and household goods	57,883.2	(8,084.1)	[42,037.5,73,728.9]
631. Sale of motor vehicles	60,474.9	(8,258.3)	[44,287.8,76,662.0]
632. Maintenance and re-pair of motor vehicles	267,164.5	(17,301.6)	[233,251.7,301,077.4]
633. Sale of motor vehicle parts and accessories	77,993.2	(9,748.1)	[58,886.0,97,100.5]
634. Sale, maintenance and repair of motor cycles and related parts and accessories	3,073.9	(1,832.8)	[-518.5,6,666.4]
635. Retail sale of automotive fuel	151,028.4	(13,013.2)	[125,521.1,176,535.7]
641. Hotels, camping sites and other provision of short stay accommodation	140,226.3	(12,530.2)	[115,665.8,164,786.9]
642. Restaurants, bars and canteens	382,180.9	(20,668.9)	[341,667.8,422,694.0]
643. Shebeen	51,621.9	(6,985.6)	[37,929.5,65,314.3]
711. Railway transport	70,302.0	(8,462.6)	[53,714.5,86,889.6]
712. Other land transport	685,546.1	(27,363.7)	[631,910.6,739,181.6]
721. Sea and coastal water transport	570.9	(570.9)	[-548.2,1,690.1]
730. AIR TRANSPORT	27,413.3	(6,247.3)	[15,168.0,39,658.6]
741. Supporting and auxiliary transport activities; activities of travel agencies	102,317.1	(10,808.5)	[81,131.4,123,502.9]
751. Postal and related courier activities	67,228.9	(8,880.8)	[49,821.6,84,636.2]
752. Telecommunication	67,662.8	(9,337.0)	[49,361.4,85,964.1]
811. Monetary intermediation	173,240.1	(14,866.1)	[144,101.2,202,379.1]

818. Cash loans	21,852.2	(5,138.9)	[11,779.4,31,925.0]
819. Other financial intermediation N.E.C.	102,603.8	(11,612.2)	[79,842.7,125,365.0]
821. Insurance and pension funding, except compulsory social security	132,786.8	(12,737.1)	[107,820.7,157,752.8]
831. Activities auxiliary to financial intermediation, except insurance and pension funding	26,281.5	(5,769.7)	[14,972.3,37,590.7]
841. Real estate activities with own or leased property	74,871.7	(8,384.9)	[58,436.4,91,306.9]
842. Real estate activities on a fee or contract basis	64,352.5	(8,643.7)	[47,409.9,81,295.0]
851. Renting of transport equipment	15,653.2	(4,697.8)	[6,445.2,24,861.3]
852. Renting of other machinery and equipment	18,777.5	(4,645.8)	[9,671.2,27,883.8]
853. Renting of personal and household goods N.E.C.	15,438.9	(4,107.9)	[7,387.0,23,490.8]
862. Software consultancy and supply	118,238.2	(12,316.4)	[94,096.8,142,379.6]
864. Data base activities	4,182.9	(2,585.7)	[-885.3,9,251.0]
865. Maintenance and repair of office, accounting and computing machinery	13,530.3	(3,787.3)	[6,106.8,20,953.8]
869. Other computer related activities	6,767.2	(2,748.3)	[1,380.3,12,154.0]
871. Research and experimental development on natural sciences and engineering	18,702.9	(4,786.9)	[9,320.1,28,085.6]
881. Legal, accounting, bookkeeping and auditing activities; tax consultancy; market research and public opinion research; business and management consultancy	219,430.0	(16,670.9)	[186,753.3,252,106.7]
882. Architectural, engineering and other technical activities	186,224.6	(15,070.2)	[156,685.6,215,763.7]
883. Advertising	81,962.9	(10,203.7)	[61,962.5,101,963.2]
889. Business activities N.E.C.	1,306,494.5	(35,772.7)	[1,236,376.5,1,376,612.4]
911. Central government activities	240,357.4	(15,731.7)	[209,521.8,271,193.0]
913. Local authority activities	241,970.3	(16,347.4)	[209,927.8,274,012.8]
914. Provincial administrations	9,435.3	(2,953.4)	[3,646.2,15,224.3]
915. S A Defence force	52,825.9	(7,653.1)	[37,825.2,67,826.7]
916. S A Police service	217,105.5	(15,596.5)	[186,534.9,247,676.1]
917. Correctional service	41,614.5	(6,375.6)	[29,117.7,54,111.2]
920. EDUCATION	1,005,328.2	(32,543.7)	[941,539.3,1,069,117.1]
931. Human health activities	649,752.4	(26,120.7)	[598,553.2,700,951.6]
932. Veterinary activities	12,617.3	(3,901.2)	[4,970.6,20,264.0]
933. Social work activities	407,688.7	(20,381.5)	[367,739.0,447,638.4]
940. OTHER COMMUNITY, SOCIAL AND PERSONAL SERVICE ACTIVITIES	373,773.8	(18,794.4)	[336,935.0,410,612.7]
951. Activities of business, employers and professional organisations	10,520.1	(3,529.8)	[3,601.4,17,438.8]
952. Activities of trade unions	9,882.5	(3,217.2)	[3,576.5,16,188.4]
959. Activities of other member-ship organizations	60,135.3	(9,056.5)	[42,383.6,77,886.9]
961. Motion picture, radio, television and other entertainment activities	32,402.8	(6,364.3)	[19,928.2,44,877.5]
962. News agency activities	15,936.4	(3,857.6)	[8,375.1,23,497.7]
963. Library, archives, museums and other cultural activities	41,793.0	(7,100.3)	[27,875.7,55,710.4]
964. Sporting and other recreational activities	102,848.7	(10,675.0)	[81,924.6,123,772.7]
990. OTHER SERVICE ACTIVITIES	304,611.2	(18,429.0)	[268,488.6,340,733.8]
Total		16,640,794.4	