REVIEW OF EMPLOYMENT AND REMUNERATION TRENDS FOR SELECTED SECTORS IN THE SOUTH AFRICAN ECONOMY

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1. Introduction[1]

1.1 Objectives

The primary purpose of this paper is to closely examine formal sector employment trends since the mid-1990s in the South African economy.

This paper attempts to answer the following questions:

- How reliable and accurate are the employment series obtained from the October Household Survey and the Labour Force Survey for the above-mentioned sectors?
- How do they compare to other Statistics South Africa data sets such as the Survey of Employment and Earnings?
- What other sources of data exist for this, and how reliable and accurate are they?
- What is a credible explanatory account of employment trends in these sectors over this period?

Why is this important?

The available data can be confusing to even the most highly skilled researchers and analysts. While some discrepancies in data may not appear to have statistical significance, they do have an important impact on the ability to analyse economic trends. They can dramatically influence findings in respect to relationships between employment, wages and output. For example, the LFS shows mining and quarrying employment rising, while most industry sources say it is stagnant or falling. Even if there were not statistical significance to the variation, time series analysis would be rendered useless. Even aggregate figures can differ dramatically.

For example, the HSRC published a book called State of the Nation in 2003. In that book, there were two articles with commentaries on employment and unemployment. The article by Altman (2003) made use of the Labour Force Survey for employment data, and found rising formal employment from 1997. The article by Nattrass (2003) used the Survey of Employment and Earnings (SEE)[2] and found falling employment in most sectors throughout the period reviewed.

Remuneration figures are even more difficult to discern. For example, the OHS and LFS data offer such wide variations year-on-year that it is almost unusable for the purpose of time series analysis at a sector level. We have found time and again that sector-level remuneration figures defy what is known within those sectors and therefore do not often provide a realistic trend or level.

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[1] The introduction to this paper was written largely by Ms. F. Tregenna with a few additions by Mr. K. Gostner to reflect the research conducted in the period November 04 – January 05

[2] Actually, Nattrass sourced her data from the Trade and Industry Policy Strategy (TIPS) Easydata, which is, in turn, sourced from Quantec. Quantec is a private data warehouse. Much of the data used for her paper ultimately relies on the SEE data.

In this light, the HSRC prepared a paper in 2003 to review employment trends in four major sectors, namely agriculture, mining, community, social & personal services and wholesale & retail. That paper found serious discrepancies in levels and trends in the first 3 sectors that could possibly affect even the aggregate employment levels.

In 2004, the Policy Coordination & Advisory Services (PCAS) in the Office of the Presidency requested that the HSRC continue this work to cover other sectors, plus review remuneration trends.

The 16 sectors and sub-sectors reviewed include:

- Agriculture
- Mining
- Manufacturing
  - Agro-processing
  - Clothing
  - Metals and Engineering[3]
    - Metal Products
    - Machinery, excluding Electrical Machinery
    - Plastics
    - Motor Vehicle, Parts and Accessories
- Construction
- Wholesale and Retail Trade
- Transport, Communication and Storage
- Financial Intermediation, Insurance, Real Estate and Business Services
  - Business Process Outsourcing
  - Information and Communications Technology
- Tourism
- Community, Social and Personal Services

Given possible limitations with the data derived from the OHS / LFS and SEE, alternative sources of data have been sourced where these exist.

[3] NB: We explore this sector as a series of alternative data sources are available at the sector level which provides some insights into the trends at the level of the sub-sectors that are explored in this paper.

1.2 Methodology

This study reviews the official data on sectoral employment and remuneration trends compares this with other sources of data where these exist, and further verification is pursued using expert opinion. The main methodology has been primary research through interviews with a variety of people directly active in each sector.

This interview-based methodology has been uneven in its usefulness for this project, and has been a very time-consuming way of gathering information. Some interviews have been highly fruitful, and have allowed us to access data that we might not otherwise have been aware of the existence of or been able to utilise. Others have not yielded much by way of concrete information of strong insights; although even this result could be considered illuminating in the sense of informing us of the terrain with which we are dealing. Indeed many of the interviews referred us back to official data or provided us with a 'common-sense' intuitive feel of employment trends, but when pushed these respondents were unable to provide an empirical basis for their opinion.

In addition to the interviews, we have gathered data and qualitative research that is reflected upon in the paper. A literature search was also done on academic economic literature, which seems to show that there is paucity of research that has been published on the issues that we are dealing with here, but the results of the literature search are available for reference. Indeed much of the literature reviewed in the course of preparing this report referred to Statistics South Africa employment data in an entirely uncritical fashion, simply accepting it as reflecting the 'truth' of the sector. Of course, this does not reflect any weakness on the part of those authors but simply the reality that there exist very few data alternatives. Almost without exception there are no comprehensive alternative time series available for the sectors discussed in this report. Instead we discovered a series of:

- Once off studies that gave a single employment picture at a point in time;
- A series of proxy indicators that gave some sense of trends in the sector, but as they were not comprehensive are almost necessarily flawed; and
- In some instances we were able to obtain data from Bargaining Councils and Provident Funds that reflected trends for 'the majority of the sector', but again their data sets are partial and do not represent the total experience of employment and remuneration.

The main constraints within which the research has been pursued have been the availability of data and little in the way of data gathering capacity outside of Statistics South Africa. As will be discussed in the sections on each individual sector, sectoral data has been limited and of uneven reliability (one of the motivations for undertaking the project!). The availability and quality of data has been the "binding constraint" in terms of the possibility of sectoral presenting employment with reasonable confidence. With respect to more research, we are certain that no major primary data source has eluded our search and as such should more research be commissioned on this topic it would almost necessarily have to be primary in nature.

1.3 Data sources

Concerns that have been raised by interviewees around the reliability and accuracy of the OHS / LFS and SEE data, particularly in the earlier years, include the following:

- Changes in the questions between different years;
- Unclear or misleading questions;
- Validity of the sampling methodology used and changes in this methodology between years; and
- The nature of weightings used and the effects of this on aggregate figures (especially where the samples are small for a particular category or sector).

A view expressed several times by interviewees is that the general trends apparent from OHS and LFS data may well be valid, but not too much reliability seems to be attached to the exact size of these trends and the magnitude of the figures themselves. Notwithstanding these concerns, many of the interviewees indicated that they continue to use the LFS data given that there are no better alternatives.

Various other additional sources of data have been drawn on in this paper, and compared to the data from OHS and LFS. These include the following:

- Other publications from Statistics South Africa, including the Survey of Total Employment and Earnings (SEE), the 1996 and 2001 Censuses, Agricultural Censuses and Surveys, and Labour Statistics on Wholesale, Retail, and Motor Trade and Hotels;
- Databases of the relevant line Government Departments, notably the Department of Minerals and Energy and the Department of Public Service and Administration;
- Data and estimates from industry associations, where these have been available;
- Data from the relevant SETAs;
- The Mesebetsi Labour Force Survey undertaken by FAFO in 1999;
- The database of the Unemployment Insurance Fund (UIF);
- Actual Wage Awards Database (AWARD), maintained by the Labour Research Services;
- Bargaining Councils; and
- Other miscellaneous sources of data, as noted in the sections on particular sectors.

A note on the SEE is also relevant at this point, as we have used this data in several of the sections. The SEE complements the OHS and LFS as it provides data from the demand side, or in other words, from firms. The survey is collected by mail each quarter from a sample of 10 183 private businesses and public institutions. In the most recent survey, of March 2004, the percentage response rate was 84.9%. The SEE counts the number of employees as the number of people employed by a business that received payment (including in kind) for any part of the reference quarter and are employed at the end of the reference quarter. It excludes independent

contractors but includes the self-employed. Note that with the introduction of the "new" SEE in 2002 (P0275), reported employment jumped up due to the new sample.

The SEE is limited to formal non-agricultural businesses registered for VAT and with a turnover of at least R300 000 per annum. For this reason alone, we would expect the SEE figures to undercount total employment in each sector, with greater undercounting in sectors where a relatively large proportion of employment is accounted for by enterprises smaller than this threshold, especially in services. Statistics South Africa also indicate in their Explanatory Notes to the SEE that given the sample size currently being used in the survey, *it is not possible to provide accurate information at a more detailed level than single-digit SIC codes.* They note that they will endeavour to make available estimates of the sub-groups on request, but that such estimates would need to be treated with caution. Note also that breaks in the series that require data adjustment in order to obtain a usable time series.

The South African Reserve Bank uses the SEE (and formerly the STEE) for their official employment statistics, in part as it is published on a quarterly basis that renders it suitable for their analysis in relationship to other economic variables. They also consider the SEE to be a fairly reliable source of data as there is a robust and credible relationship between data from the STEE/SEE and other related economic indicators. In their published employment data, the Reserve Bank seasonalises the SEE figures. They also have a once-off adjustment factor through which they link the two SEE series (calculated on the basis of the overlap period between the two).

We have also considered the database of the Unemployment Insurance Fund (UIF). All employers (except the public service) are now required to contribute to the Fund. Their database of employment now covers 5.8 million (formal sector) employees, and they believe that this should go up to about seven million if all firms and employees were to be covered. The Department of Labour considers the UI database to be fairly good, and believes that it has wide coverage of employers. The UIF has disaggregated data for us by sector, but these figures seem to be very low, and we have included them as an appendix to the document.

1.4 Data sources

Given the multitude of sectors under review in this report coupled to our attempts to uncover relationships between partial databases; once-off survey and proxy indicators to the trends revealed by the official data sources it often becomes a little difficult to discern the proverbial wood from the trees or in this case the trend for the data. Accordingly the first section of this report serves as an overview section that attempts to summarise the major trends and conclusions that have emerged from the research.

The remainder of the document is then structured around the sixteen sectors that we are examining. We begin each section by noting each of the available data sources on employment for that sector and, where pertinent, commenting on these. We present and discuss the trends in aggregate employment data for the sector, as well as the data disaggregated at a sub-sectoral level. For each sector we also give a brief assessment of the data, where possible suggesting which data sources might be the most reliable, and noting further research needs. We also discuss possible explanations behind the

apparent trends in sectoral employment, reflecting both other economic data for the sector as well as the views of experts interviewed. The various sections are structured slightly differently within this overall framework, as appropriate.

The PCAS recognises the confusion caused by different data sources. They asked us: "which line is the right one?" We venture some views about this in each section. However, it should be noted that it does not help that much to say "the SEE seems right here" or "use the LFS there". Rather one needs a single data source that can reliably be used as a whole. Some believe that one should use the LFS for employment data and the SEE for output related data. We do not find that this is yet an adequate solution, although improvements to the LFS might enable that in future.

The variations noted in this paper may not always be statistically significant. However, this presents another problem. It is therefore difficult to sector and sub-sector research using official data. In one set, output or employment might be going up or down. Which one is correct? This has an impact on expectations. It should be possible to use sector data made available from official sources, and derive clear trends, for at least the major sectors – at the 2 –digit SIC code level, if not the 3-digit SIC code level. This matter requires serious attention[4].

[4] For example, manufacturing is at the single digit SIC (3), Chemicals is at the 2 digit (33), and Coke & refined petroleum is at the 3 digit level (331 – 333).

2. Overview chapter

2.1 Introduction

Given the multitude of data sources that are reviewed in the one hundred plus pages that follow this section of the paper, we have sought to provide the reader with a snapshot of the various trends that have emerged from the various sectors under review.

In this section of the paper we:

- Review other attempts to verify or understand the trends revealed by the employment data;
- Review what the economy-wide employment and remuneration trends are in order to provide some context to the sectors under review;
- Explore the potential impact of non-VAT registered companies as an explanation for the variation between SEE and LFS data; and
- Summarise the major trends that have emerged from the sectoral research.

2.2 Reviewing the literature

Interestingly enough there exist very few systematic attempts to probe the various discrepancies between the multitudes of data sets that reflect South Africa's employment status. It is probable that this paucity of research on such a critical topic reflects the intractable nature of the problem; for who wants to spend copious amounts of time, energy and paper on reaching that unsatisfying answer of 'I don't know'?

Notable exceptions to this general rule are the work completed by Neva Makgetla of Cosatu and Daniela Casale, Colette Muller and Dorrit Posel of the University of KwaZulu-Natal. Even then their work focuses on the failings of the official data and attempts to disentangle the various trends that result from definitional changes, variations in field work and the like. Their work provides a valuable base for us, but does not undertake the additional step attempted in this report, which is to attempt to compare the official data with other available data with a view to discerning some verifiable trend.

Altman and Woolard (2005) review the OHS and LFS data, for its internal consistency, and make recommendations particularly relevant for the alignment and use of historical employment data. This report mostly has implications for our understanding of employment trends in the 1990s. This was part of an HSRC effort to interrogate employment and unemployment data, that led to a deeper interrogation of four large sectors, namely agriculture, mining, community, social and personal services, and wholesale and retail. This report found substantial discrepancies in the first 3 sectors, which had implications for their employment trends. That report was a precursor to the present study.

When we probed respondents on the differences both in trend and absolute numbers that exist for most of the sectors between OHS / LFS and SEE as well as between these data sets and others that exist they pointed to the difference in timing and methodology for each of these data sources. This answer is indisputably technically correct; the difference in methodology will almost necessarily yield a difference in absolute number and trend. Yet this answer is distinctly unsatisfying. It leaves so much unanswered, it explains so little and yet few have attempted to probe beyond the methodological looking-glass to see what mad hatters may be playing havoc with our sense of labour market trends.

In February 2004 Neva Makgetla of Cosatu wrote a paper for submission to the Cosatu Central Executive Committee exploring both the large year-on-year variability shown in the OFS / LFS data sets as well as the discrepancies between this data and the Census and SEE data. In this paper she notes that the "figures based on different types of government surveys come up with qualitatively different results for the level of employment and trends in job growth". As will be seen in the course of this document, this conclusion is true for the HSRC's review of the same statistics.

In a systematic analysis of the key drivers of difference between the LFS and SEE data-sets as well as the high levels of variability within the OHS / LFS Makgetla provides some insights into the reasons for the high levels of variation that the reader will observe as they progress through the remainder of this report. Many of these reasons are echoed in Casale, et al's (2004) paper that attempts to discern whether or not 2 million new jobs (a government claim in the lead up to elections) was in fact accurate.

First, Makgetla notes that much of the variability in the OHS / LFS employment data can be explained by Statistics SA's expansion of the definitions of employment to incorporate employment with no regard to the level of income or number of hours worked. This effectively creates a situation in which a casual car parker is deemed to be employed. This category of employment, as can be seen in the chart below, both has a high degree of variability and makes a considerable contribution to variation in top-line employment numbers. A similar trend is observed in the Metals and Engineering sectors that are reviewed below, where much of the variation in employment is accounted for by rises in atypical employment.

Table 1 – Employment trends from the OHS / LFS ('000s), 1995-2003

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Formal Sector Employment	8 322	7 693	6 980	7 299	7 620	7 986	7 964	8 201	8 364
Informal Sector Employment	466	302	941	1 099	1 469	1 581	1 551	1 402	1 472
Unpaid Workers (not in OHS's)	0	0	0	0	0	161	134	110	93
Domestic Workers	850	907	988	793	985	1 387	1 107	1 037	1 094
Subsistence Farmers	27	24	187	211	305	1 057	365	509	371

Source: OHS1995-1999, LFS2000-2003

Neither of the authors referred to above had explored, in detail, the possible connections between a growth in small and micro enterprises as a driver of employment growth and potential discrepancies between the SEE and LFS. For this reason we reviewed Statistics South Africa's 2002 survey of non-Vat registered companies (i.e. those that fall out of the SEE sample) entitled "The contribution of small and micro enterprises to the economy of the country: A survey of non-VAT-registered businesses in South Africa".

The broad conclusions of this survey, with respect to employment, were:

- There are 2,3 million people who were owners of at least one non-VAT-registered business;
- Only 338 000 owners (14,8%) had one or more employees;
- There were a total of 734 000 employees working within the businesses of the 338 000 owners who had employees. Just under two-thirds (471 000 of 734 000, or 64,2%) of these workers were paid, while more than one-third (262 000 of 734 000, or 35,7%) were unpaid; and
- Owners in the construction; transport, storage and communication and agriculture, hunting forestry and fishing sectors were the most likely to employ people while people with businesses in the financial, insurance, real estate and business services sector were least likely to be employers.

It would appear from the weighting of employment in the trade sector that most of the employment that emanates from this sector of the economy is from buying finished goods and supplying them to consumers. As such employment in non-Vat registered businesses is unlikely to account for much of the variability between SEE and OHS / LFS in the most of the sectors under examination in this report. For our purposes it is also important to note that there are relatively few employees in Non-Vat registered businesses in the manufacturing sector. Accordingly the levels of variation that we see in that sector between the SEE and OHS / LFS are much more likely to be attributable to a rise in atypical employment within VAT registered businesses than in employment growth in the Non-Vat sector.

Makgetla concludes her paper by noting "The OHS/LFS data on job creation in the informal sector account for most of the reported growth in employment. Yet they are seriously flawed. It seems impossible to determine the extent to which they reflect genuine expansion in work opportunities as opposed to re-labelling of existing activities". Similarly "The Mystery of South Africa's Ghost Workers in 1996: Measurement and Mis-measurement in the Manufacturing Census, Population Census and October Household Surveys" by Martin Wittenberg (2004) concludes, after much detailed effort to find the 'true' number or trend, with the comment that "The fact that we can't reduce the uncertainty (between the data sources) is troubling, to say the least".

It is the motivating drive behind this paper to reduce the uncertainty, yet this literature tells us we have set ourselves an impossible task. In each section, the paper attempts to reduce the uncertainty between the data sources, and identify underlying trends. Yet all too often we are compelled to offer the answer that we are absolutely

certain that there is no way, short of commissioning a series of parallel surveys, to reduce the uncertainty. All to often this gloomy conclusion is reinforced by comments from those industry commentators that we have interviewed – most of whom point to limitations of the official statistics but continue to use them as they are uncertain of what real alternatives they have. Nevertheless we are denying you the joys and frustrations of the analytical excursion, which follows so we will now turn to reviewing the high-level results of the research.

2.3 What are the broad employment and remuneration trends?

2.3.1 Research overview

In this section of the report we seek to provide the reader with a snapshot of the major findings per sector. Although each section will provide a much more detailed analysis of the findings per sector, it is the purpose of this section to provide the reader with a series of overview sections to provide some orientation to what may otherwise become a bewildering mass of detail in the sections that follow. In doing so we provide two sections:

- The first section reviews what alternative sources of data are available for the sector; and
- The second compares the trends revealed by both the Statistics SA data and other data sources and attempts to provide a brief conclusion per sector.

2.3.2 Data availability

The availability of comparable data sets was a consistent constraint on the completion of this project. The purpose of this section is to provide an overview of what is available and in so doing we aim to accomplish two ends:

- First, to reveal the limitations and / or strength of any conclusions that we may draw here; and
- Second, to show the extent of the gaps that exist that may, with time, provide the basis for future research agendas.

This should impact on thinking about what sort of official data should be made available and how presented.

In the table below we show the various data sets and studies that we discovered to be available for the sectors under examination here. Note that we have not included the published papers and articles that we discovered and reviewed that turned out to use Statistics South Africa data as their starting point. In certain instances we engaged in analytical gymnastics to try and stretch a data-source or a proxy indicator to give us something against which we could compare the official data. For instance, in the Clothing sector and Metals and Engineering sectors we draw on Bargaining Council numbers or membership of Provident Funds to try and give some sense of the trends that may be occurring in the industry. Yet all too often these efforts are riddled with

caveats – the Clothing Bargaining Council shows increased numbers of employment, but only because of a concerted drive to increase compliance and a similar trend is true of the Metals and Engineering sector. Nevertheless this table, at the very least, tells us what we don't know. As a result we are able to conclude:

- With the exception of the Mining sector there are no alternative time series data that even approximate the methodological thoroughness of those published by Stats SA. This does not exonerate the Stats SA data from the questions raised by the sector experts we interviewed, it merely points to a fact that as far as we have been able to establish there are no better alternatives for the majority of the sectors under review; There exist a number of once-off studies and proxy indicators for all the other sectors but they are like a torch beam in a dark cave – they provide us with some indication of where we are and we are able to make a few tentative conclusions based on what we see illuminated, but ultimately we cannot discern a bigger picture from the pool of light that they provide.
- There are a few sectors where we have been able to discern a clear trend. These sectors include agriculture, mining, and community, social and personal services.

Table 2 – Sources of employment information

Sector	Statistics SA data available	Other time series data available	Other occasional data series available	Proxy indicators available / used
Agriculture	OHS / LFS	Biannual agricultural Surveys available until 1996; No other time series data available.	Agricultural Census (last done in 1993, 2002); Stats SA (1997) "Rural Survey"; Mesebetsi Labour Force Survey (1999)	N/A
Mining	OHS / LFS	Chamber of Mines database; DME database	Mesebetsi Labour Force Survey (1999)	
Agro-processing	OHS / LFS SEE			
Clothing	OHS / LFS SEE	Wesgro / Clothing Federation (Derived from Bargaining Council)		Minimum wage rates
Metals and Engineering[5]	OHS / LFS SEE	Metals and Engineering Bargaining Coucil	Fridge (2003) Study on the Metals and Engineering sector	Minimum wage rates
Metal Products	OHS / LFS SEE	Metals and Engineering Bargaining Coucil	Fridge (2003) Study on the Metals and Engineering sector	Minimum wage rates
Machinery, excluding Electrical Machinery	OHS / LFS SEE	Metals and Engineering Bargaining Coucil	Fridge (2003) Study on the Metals and Engineering sector	Minimum wage rates
Plastics	OHS / LFS SEE	Metals and Engineering Bargaining Coucil	Fridge (2003) Study on the Metals and Engineering sector	Minimum wage rates;
Motor Vehicle, Parts and Accessories	OHS / LFS SEE	NAACAM	Fridge (2003) Study on the Metals and Engineering sector; NAACAM (2004) Census	Minimum wage rates;
Construction	OHS / LFS SEE	Building Industries Federation of South Africa;	Stats SA (2004) Economic Activity Survey; Construction Industry	Bargaining Council Minimum wages

[5] NB: W explore this sector as a series of alternative data sources are available at the sector level which provides some insights into the trends at the level of the sub-sectors that are explored in this paper.

Sector	Statistics SA data available	Other time series data available	Other occasional data series available	Proxy indicators available / used
			Development Board	
Transport, Communication and Storage	OHS / LFS SEE	N / A	Stats SA (2002) Survey of the Transport Industry.	SATAWU estimates on taxi industry employment; Bargaining Council Minimum Wages
Financial Intermediation, Insurance, Real Estate and Business Services	OHS /LFS SEE	N/A	BANKSETA; INSETA and FASSET; KPMG Banking Survey	N/A
Business Process Outsourcing[6]	N/A	N/A	Deloittes and Touche	N/A
Information and Communications Technology	SEE		IT Web Salary Survey; ISETT	Annual Reports of major companies
Tourism	OHS / LFS		Tourism and Hospitality Education and Training Authority ; WTTC ; South African Tourism Strategic Research Unit	
Wholesale and Retail Trade	OHS / LFS	Labour Statistics: Employment and Salaries and Wages: Wholesale Retail and Motor Trade, published in 1997 and 1998 (Stats SA).	BER Trends; Mesebetsi Labour Force Survey	
Community, Social and Personal Services	OHS / LFS SEE		PERSAL database of Department of Public Service and Administration Database of the Local Government and Water Seta; Services Seta	

Table 2 demonstrates the 'patchiness' of data outside that which is produced by Stats SA. For the most part there is only partial data or once-off surveys which provide glimmers of insight but cannot statistically speaking be said to rival the picture

[6] NB: This is not a sector that is commonly captured by SIC Codes and so we have attempted to extrapolate trends based on expert interviews.

provided by Stats SA. Thus it is fair to conclude that despite the problems that many commentators have raised with the employment statistics produced by Statistics South Africa, they do constitute the most comprehensive picture provided of the state of the labour market.

While the following chapter will provide a sector-by-sector account, it is our experience in writing this report that it becomes more than a little bewildering to process the multitude of graphs, discrepancies between them and the 'ifs' and 'buts' that emanate from once-off surveys and expert opinion. Accordingly in the next section we will attempt to summarise the trends in the sectors under review.

2.3.3 Labour market trends, according to data source

We have been asked to review both employment and remuneration statistics and then within these two broad categories to see whether it is feasible, based on the available research, to adjudicate what is the most likely trend in the category and which absolute number is likely to be the most accurate. Given the paucity of available data sets for most sectors revealed in the above table the difficulty of such a task ought to be readily apparent. Nevertheless we have attempted such a task and will draw attention to the weaknesses of any conclusion that we reach when we believe that it is methodologically required that we do so. Note that we are referring to the period 1995-2003. Given the changes in OHS / LFS we have also included the period 1997-2003 which is the period in which the shift to the LFS occurred.

Although we have used SEE data in the below table, we are cognisant of the fact that in strict terms this data is not comparable in this way. Nevertheless we have included it in this manner, as this is undoubtedly the manner in which users would ideally want to be able to use the data. To have an absolute figure in a given period while useful is not the most strategically useful information, as ultimately it is the trend information that is most useful in assessing a sectors growth.

Lastly we have included trends drawn from QUANTEC data, as the readily accessible nature of this data means that it is often used as a default by sector researchers.