

Note on the different measures of wage growth and the current trends in related labour market indicators in South Africa

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Introduction

Wage growth became a topical issue when global and domestic consumer price inflation accelerated significantly following the resumption of economic activity after the coronavirus disease 2019 (COVID-19) restrictions were gradually lifted as from the second half of 2020 and after Russia's invasion of Ukraine in February 2022. This raised the cost of living – a scenario which could manifest in wage pressures and further inflation. In South Africa, real wage growth contracted as nominal wage growth moderated to below inflation, as measured by the headline consumer price index (CPI), in an environment of challenging domestic economic conditions amid, among other factors, higher production costs due to intensified electricity load-shedding.

This note discusses the different measures of wage growth in South Africa, supplemented with a correlation analysis and recent trends in wage growth, labour productivity and unit labour cost.

Measures of wage growth

Wages include concepts such as pay, salaries, income, compensation and earnings, with wage growth measured in both nominal and real¹ terms. Real wage growth is a proxy for workers' living standards, and a sustained increase in real wages will raise their standard of living. However, wages also represent the cost of labour in the production process and thus have an impact on the prices of goods and services.

The available measures of wage growth differ in terms of definition and compilation methodology as well as coverage, all of which determine their analytical application. The following wage growth measures are used by the South African Reserve Bank's (SARB) Economic Statistics Department for analysis purposes:

- the gross earnings of employees;
- the compensation of employees; and
- the average wage settlement rate in collective bargaining agreements.

Gross earnings of employees

The gross earnings of employees^{2,3} represent total nominal remuneration in the formal non-agricultural sector of the economy, as published by Statistics South Africa (Stats SA) in the *Quarterly Employment Statistics (QES)* survey.⁴

1 Real wages are obtained by adjusting nominal wages for CPI inflation.

2 The gross earnings of employees is defined by Stats SA in its QES survey as "the payments for ordinary-time, standard or agreed hours during the reference period for all permanent, temporary, casual, managerial and executive employees before taxation and other deductions for the reference period. This includes salaries and wages; commission if a retainer, wage or salary was also paid; employer's contribution to pension, provident, medical aid, sick pay and other funds; allowances; etc., but excludes earnings of sole proprietors or partners of unincorporated businesses; commission where a retainer, wage or salary was not paid; payments to subcontractors and consultants who are not part of the enterprise; and severance, termination and redundancy payments. Gross earnings are the total sum of the earnings, including performance and other bonuses as well as overtime payments for the three months of the reference quarter".

3 The SARB statistically links the employment and gross earnings time series of the QES survey to remove structural breaks. The SARB's linking methodology differs from that of Stats SA. See 'Box 1: Statistical linking of formal non-agricultural employment and earnings time series' in the March 2017 edition of the *Quarterly Bulletin (QB)*, available at March 2017 – Statistical linking of formal non-agricultural employment and earnings (www.resbank.co.za).

4 The QES survey is a quarterly enterprise-based survey of the number of employees and gross earnings of approximately 20 000 value-added tax (VAT)-registered private and public formal non-agricultural businesses with an annual turnover of more than R300 000. See <https://www.statssa.gov.za/publications/P0277/P0277March2023.pdf>

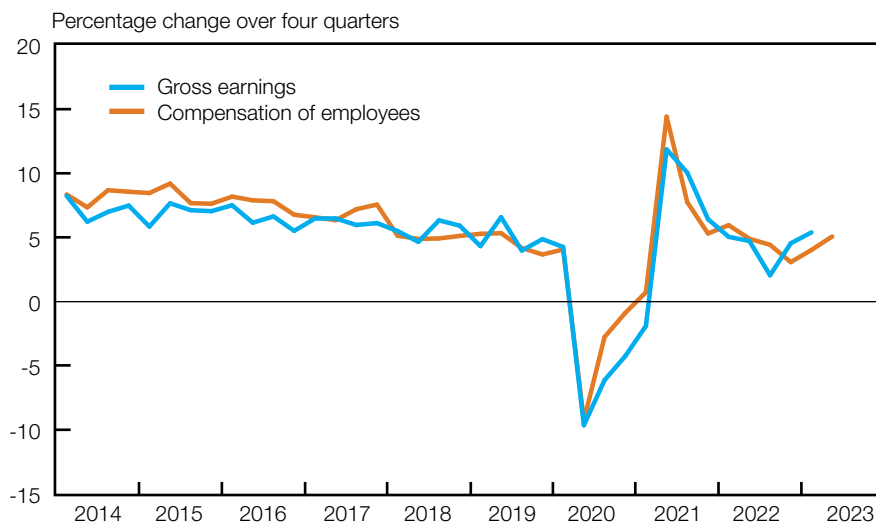


These statistics are also used to compile formal non-agricultural labour productivity⁵ and nominal unit labour cost (ULC)⁶ statistics, as published in the SARB's *Quarterly Bulletin (QB)*.⁷

Compensation of employees

The nominal compensation of employees⁸ is a broader measure of wages in the economy as a whole. This national accounts aggregate is a key component of nominal household disposable income, which is an important driver of household consumption expenditure. The compensation of employees serves as an input into the calculation of economy-wide unit labour cost^{9,10} which is a broader and smoother measure of wage pressures than the formal non-agricultural ULC measure.

Figure 1 Nominal wage growth measures



Sources: Stats SA and SARB

Average wage settlement rate in collective bargaining agreements

The average wage settlement rate in collective bargaining agreements reflects the negotiated nominal annual wage increases for employees who are part of a collective bargaining unit of firms surveyed by Andrew Levy Employment Publications. However, this measure excludes agreements reached under centralised sector-level bargaining councils such as the public sector and the metal and engineering sector. This measure mainly provides an indication of

5 Labour productivity is defined as output produced per unit of labour input. Labour productivity in the formal non-agricultural sector is calculated as the real gross value added in the non-agricultural sector *divided* by total formal non-agricultural employment.

6 Unit labour cost is defined as the cost of labour per unit of output produced. Nominal unit labour cost in the formal non-agricultural sector is calculated as the total value of gross earnings in the formal non-agricultural sector *divided* by the real gross value added in the non-agricultural sector.

7 See pages S-143 and S-163 in this edition of the *QB*.

8 The compensation of employees is defined in the *2008 System of National Accounts (2008 SNA)* as, "the total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the latter during the accounting period. Compensation of employees has two main components: (i) wages and salaries payable in cash or in kind, including enhanced payments and special allowances (e.g. overtime), regular supplementary allowances (e.g. housing), ad hoc bonus payments as well as commissions, gratuities or tips received by employees; and (ii) social insurance contributions payable by employers, which include contributions to social security schemes; actual social contributions to other employment-related social insurance schemes; and imputed social contributions to other employment-related social insurance schemes". See <https://unstats.un.org/unsd/nationalaccount/docs/SNA2008.pdf>

9 See 'Note on unit labour cost measurement in South Africa' published in the September 2016 edition of the *QB*, available at <https://www.resbank.co.za/en/home/publications/publication-detail-pages/quarterly-bulletins/articles-and-notes/2016/7471>

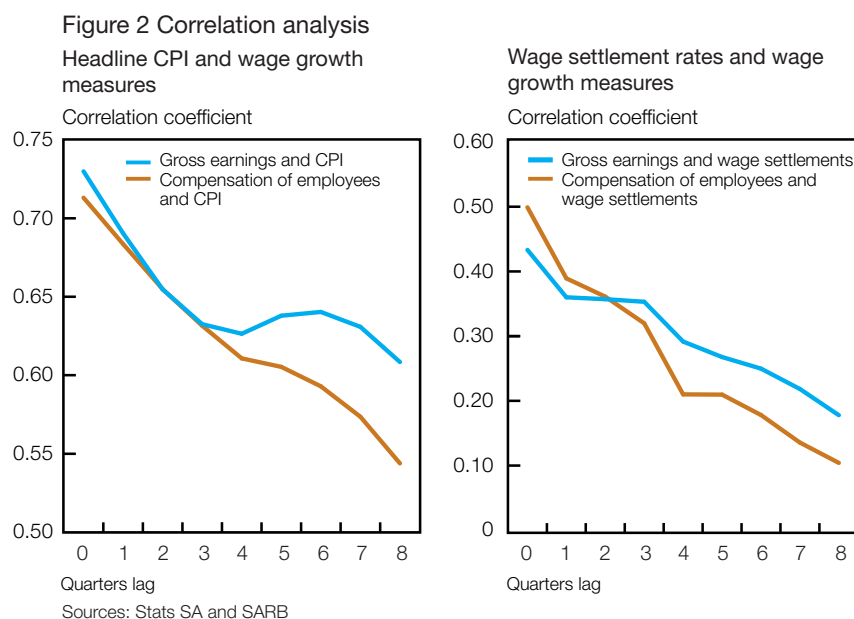
10 Economy-wide unit labour cost is calculated as total nominal compensation of employees *divided* by total real gross domestic product.



the most likely direction of change in nominal wage growth rather than the exact magnitude, as employees in bargaining units usually negotiate higher wage increases than those paid to all workers in the economy. Furthermore, this measure is unweighted and covers only a relatively small segment of the workforce.

Correlation analysis

The correlation coefficients between headline CPI inflation and gross earnings and the compensation of employees were obtained by using quarterly data from the first quarter of 1980 to the second quarter of 2023,¹¹ while the correlation coefficients between the average wage settlement rate in collective bargaining agreements and gross earnings and the compensation of employees were obtained by using quarterly data from the fourth quarter of 1995 to the second quarter of 2023, as prior data were not available. Furthermore, a maximum lag of eight quarters was used in the correlation analysis, as the transmission of monetary policy or external shocks usually manifest within this time frame.



The positive correlation between gross earnings and headline CPI is the strongest at a zero-quarters lag (or no lag) followed by a gradually weaker correlation coefficient up to a four-quarter lag, before increasing slightly from a five-quarter lag and remaining moderately positive onwards. The correlation between the compensation of employees and headline CPI is also the strongest at a zero-quarters lag and is mostly weaker than that between gross earnings and headline CPI, although the pattern is fairly similar.

A positive correlation also exists between gross earnings and average wage settlements, which becomes stronger at a three- to four-quarter lag. The compensation of employees has the strongest positive relationship with average wage settlements at a zero-quarters lag, with a definite weakening trend to a low correlation coefficient at an eight-quarter lag.

Recent trends in inflation and wage growth

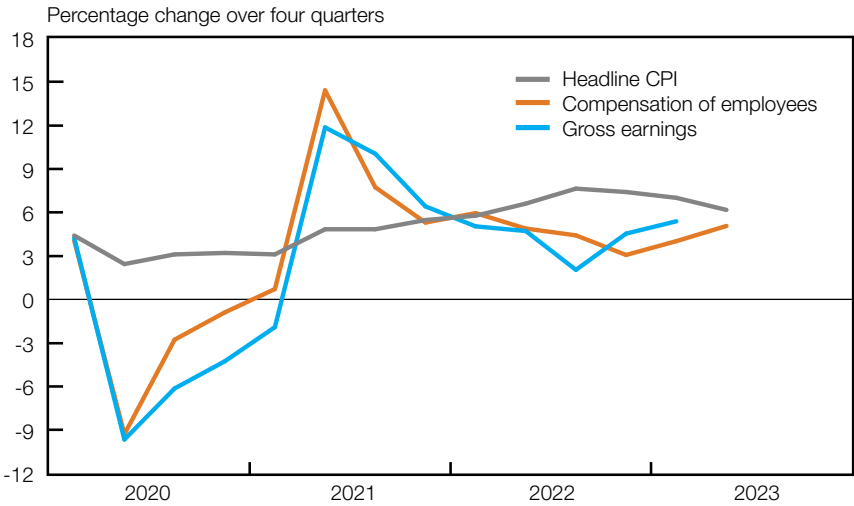
After the COVID-19 pandemic, global inflation accelerated rapidly to multi-year highs in the wake of global supply chain disruptions and higher commodity prices, which was later exacerbated by the war in Ukraine. In addition, expansionary monetary and fiscal policy during the pandemic stimulated pent-up consumer demand. In South Africa, the increase in inflation occurred alongside an acceleration in nominal wage growth which reflected COVID-19 base effects, with

¹¹ A separate correlation analysis for these time series was done only up to 2019 to exclude possible distortions due to COVID-19, but the results were very similar.



year-on-year growth in nominal gross earnings and the compensation of employees tracking each other closely. The contraction in total nominal gross earnings in the formal non-agricultural sector and in the compensation of employees to all-time low year-on-year rates of -9.7% and -9.3% respectively in the second quarter of 2020 reflected a combination of COVID-19-induced salary reductions and job losses, substantially lower salary increases, wage freezes as well as significantly lower bonus, overtime and commission payments in the private sector, in particular. Subsequently, nominal wage growth accelerated sharply to double-digit rates a year later due to pandemic-induced base effects before moderating again during the subsequent two years as the base effects dissipated.

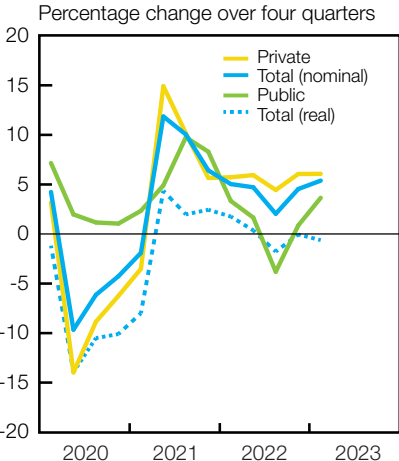
Figure 3 Nominal wage growth and consumer price inflation



Sources: Stats SA and SARB

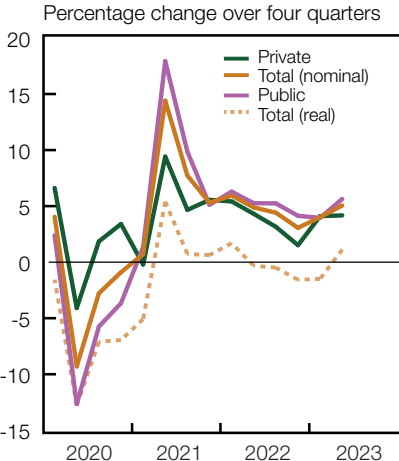
The acceleration in South Africa’s headline CPI inflation in 2021 and further to a peak of 7.8% in July 2022 – the fastest pace of increase since 2009 – reflected the surge in global food and energy prices due to the war in Ukraine. By contrast, nominal private and public sector wage growth in terms of both the gross earnings and compensation of employees measures moderated consistently for more than a year from the third quarter of 2021. The moderation in public sector remuneration growth largely reflected successive delays in the implementation of the annual public sector wage increase against the backdrop of government’s prior commitment to restrain growth in the public sector wage bill. More recently, growth in formal non-agricultural gross earnings accelerated for two consecutive quarters, from 2.0% in the third quarter of 2022 to 5.4% in the first quarter of 2023.

Figure 4 Growth in formal non-agricultural gross earnings



Sources: Stats SA and SARB

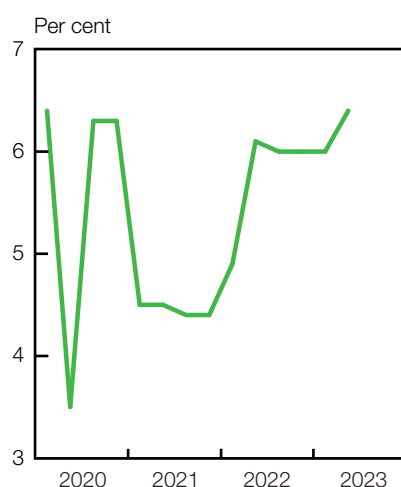
Figure 5 Growth in compensation of employees





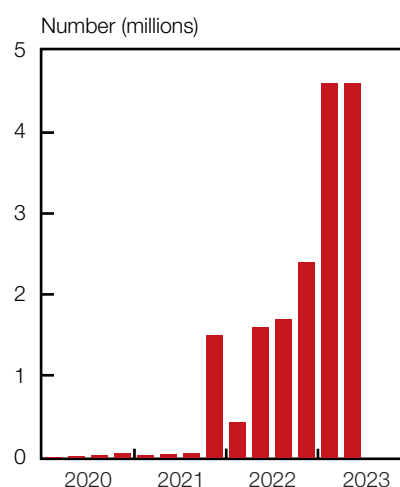
Growth in real remuneration slowed gradually from the third quarter of 2021 and contracted on a year-on-year basis in the three quarters up to the first quarter of 2023 as inflation accelerated at a faster pace, while growth in nominal remuneration moderated. Growth in real gross earnings in the formal non-agricultural sector slowed from 4.4% in the second quarter of 2021 to -0.7% in the first quarter of 2023, while growth in the real compensation of employees slowed from 5.4% to -1.5% over the same period, before accelerating to 1.1% in the second quarter of 2023. Therefore, growth in nominal remuneration did not keep up with the rising cost of living which, together with higher interest rates to contain inflation, eroded household disposable income, hence the moderation in growth in household disposable income from 2.6% in the third quarter of 2021 to 0.0% in the second quarter of 2023 and the slowdown in growth in household consumption expenditure from 2.7% to 0.7% over the same period.

Figure 6 Average nominal wage settlement rate in collective bargaining agreements



Source: Andrew Levy Employment Publications

Figure 7 Number of workdays lost due to industrial action



The higher level of nominal wage settlement rates in collective bargaining agreements corroborate the recent acceleration in nominal remuneration growth and is consistent with both higher wage and inflation expectations. The average nominal wage settlement rate in collective bargaining agreements increased to 6.4% in the second quarter of 2023 from 6.1% a year earlier, with the increase exceeding that in nominal remuneration growth. Growth in nominal remuneration has thus far remained below inflation due to the inability of most firms to grant higher remuneration increases in the current environment of weak economic activity and high operating costs, with the latter exacerbated by the cost of mitigating severe electricity load-shedding. This, relative to wage negotiations striving to compensate for cost-of-living increases, resulted in a surge in the number of workdays lost due to industrial action.

Recent trends in labour productivity and unit labour cost

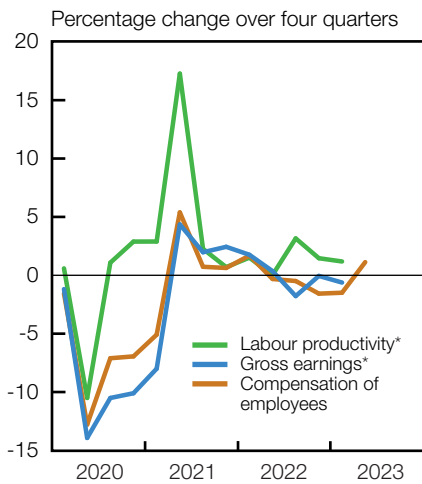
In theory, higher growth in real remuneration than growth in labour productivity contributes to higher inflation as it exerts pressure on firms to increase prices to preserve profitability.¹² Conversely, growth in real remuneration that is in line with or below growth in labour productivity reduces price pressures. Following the pandemic-related distortions in 2020 and 2021, growth in real remuneration trended gradually lower and even contracted, falling below growth in labour productivity from the second half of 2022. This reduced the real wage gap,¹³ which suggests that the labour market was not a source of inflation during the period under review.

12 D Mihaljek and S Saxena, 'Wages, productivity and "structural" inflation in emerging market economies', Basel: Bank for International Settlements, 2010. <https://www.bis.org/publ/bppdf/bispap49d.pdf>

13 The real wage gap is the difference between the growth in real wages and labour productivity.



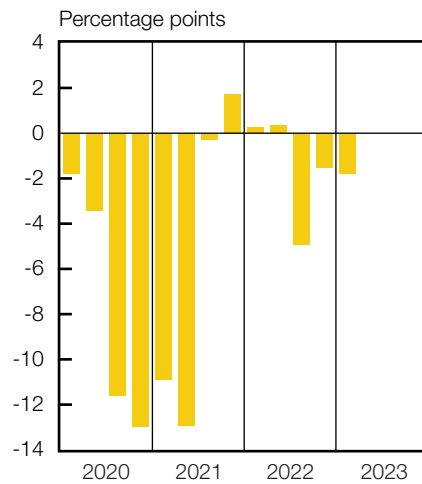
Figure 8 Growth in real remuneration and productivity



* Formal non-agricultural

Sources: Stats SA and SARB

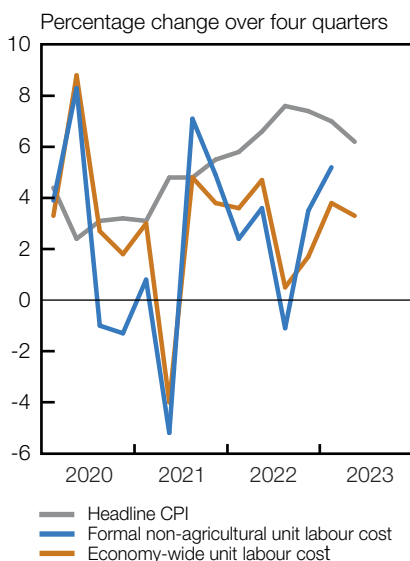
Figure 9 Real gross earnings wage gap*



* The difference between growth in real gross earnings and productivity

Growth in nominal ULC is another measure of inflationary pressure emanating from the labour market. Sustained growth in ULC reflects wage pressures that could translate into higher inflation as firms recoup higher remuneration costs by increasing prices. Since 2020, changes in nominal ULC have largely reflected pandemic-induced distortions as output was more severely affected by lockdown restrictions than remuneration. In addition, the formal non-agricultural nominal ULC displayed greater volatility than economy-wide nominal ULC, largely due to the impact of delays in the implementation of the annual public sector wage increases. Despite these distortions, growth in both ULC measures have accelerated since mid-2022. However, with consumer price inflation outpacing growth in nominal ULC, real economy-wide ULC has contracted since mid-2020, which also suggests the absence of inflationary pressures emanating from the labour market.

Figure 10 Measures of growth in nominal unit labour cost and consumer price inflation



Sources: Stats SA and SARB

Figure 11 Growth in economy-wide real unit labour cost

