Economic Research Southern Africa

Why Higher Trend Inflation Makes Monetary Policy More Costly in South Africa

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1. Introduction

Most inflation-targeting central banks target a small but positive underlying rate of inflation, often called trend inflation[1]. Yet its appropriate level remains uncertain. The extended deliberation in South Africa to move from a 3 - 6% target band to a 3% point target (with a ±1% tolerance band) illustrates this tension. In our working paper (Trend Inflation and the Costs of Price Dispersion in a Fiscal DSGE Model), we examine the role of trend inflation in an economy and argue that, all else equal, lower trend inflation is better for the economy.

Our findings reveal that moderate increases in trend inflation can raise the economic cost of stabilising inflation. When inflation is higher:

- interest rate hikes reduce inflation less effectively,
- the output losses required to bring inflation down are larger, and
- long-run output and welfare are permanently lower.

For South African monetary policy, this strengthens the case for a lower inflation target - and for resisting any drift toward the upper end of the tolerance band.

2. Price dispersion as the link between trend inflation, economic output and welfare?

Price dispersion means that otherwise similar firms charge different prices for the same type of good because they do not all adjust prices at the same time. When trend inflation is high and some firms update their prices while others do not, some goods become too expensive relative to others and some too cheap. Even though firms are identical in principle, they end up charging different prices, so some sell too little and others sell too much compared with what would be efficient.

Although some firms overproduce and others underproduce, these misallocations do not cancel out—they compound. Firms producing too much are stretching resources inefficiently; firms producing too little are underutilising their resources. For the same amount of labour and resources, the economy produces less output overall. Our analysis confirms this and shows that higher trend inflation makes these pricing gaps wider and more persistent, which means that price dispersion becomes the main channel through which inflation reduces productivity, output and welfare.

This lower productivity shows up in two ways that matter for policy – both explored in the section 3. First, price dispersion and therefore higher trend inflation **reduces the economy's long-run capacity to produce**, so households are worse off. Second, it **weakens the effectiveness of monetary policy**: when prices are already out of line, a given interest rate hike reduces inflation by less, and each percentage point of disinflation requires a larger temporary loss of output. Price dispersion therefore matters not only for the long-run level of output and welfare, but also for how the economy responds to shocks and for how costly it is to bring inflation down (the sacrifice ratio).

[1] In this note, "trend inflation" refers to the long-term or underlying rate of inflation around which actual inflation fluctuates from quarter to quarter. It is closely related to the level of inflation that a central bank aims to achieve on average over time.

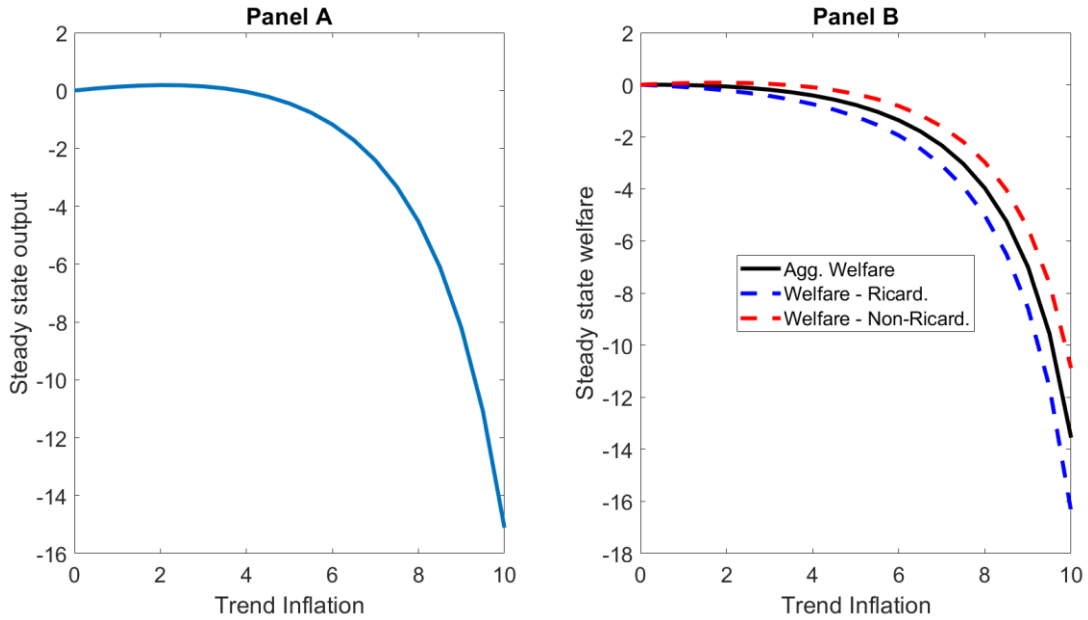
3. Main findings

3.1 Trend inflation, long-run output and welfare

Figure 1 shows how long-run welfare and output respond as trend inflation rises, measured as percentage deviations from a zero-inflation benchmark. Panel A illustrates the output cost of trend inflation. As explained above, higher trend inflation widens price dispersion, which misallocates resources and reduces what the economy can produce. Lowering trend inflation does the opposite: it narrows price dispersion, reduces resource misallocation, and raises long-run output. These findings are consistent with the existing literature.

Panel B shows how welfare varies across different types of households. The modelling used in the working paper distinguishes between two types of households: "Ricardian" households, who can save, borrow and plan for the future, and "non-Ricardian" households, who spend all their income and depend more heavily on wages and social transfers. This distinction is especially relevant for South Africa where many households have little ability to save or borrow and rely heavily on government transfers. The panel shows that aggregate welfare falls steadily as trend inflation rises. While the loss is marginally weighted toward Ricardian households, both types of households experience significant welfare losses.

Figure 1: Trend Inflation and Selected Steady-State Variables



Notes: Each panel reports steady-state percent deviations from the zero-trend baseline $\bar{\pi} = 0$ for key variables across trend-inflation levels $\bar{\pi} \in [0,10]\%$.
Source: Author's calculations

Importantly, Panel B shows that the welfare loss remains fairly contained up to 4%. However, the picture changes significantly when we allow for wage rigidities – when wages, like prices, cannot adjust freely. Just as price rigidity causes price dispersion, wage rigidity causes wage dispersion: not all workers are paid their optimal wage at any given time. Some households end up working too much, others too little, and the economy gets less output from each hour of labour. Higher trend inflation locks in these distortions, so long-run welfare deteriorates much faster under wage rigidities than under flexible wages[2].

[2] The quantitative comparison of welfare under flexible and sticky wages is presented in the working paper.

3.2 Phillips curve under trend inflation and the sacrifice ratio

Trend inflation not only alters long-run outcomes (welfare and output) but also reshapes how the economy absorbs short-run shocks and therefore, how interest rate changes affect the economy. To illustrate this in the paper, we examine what happens after a one-off increase in the policy interest rate under different levels of trend inflation.

The short-run relationship between inflation and economic activity is often summarised by the **Phillips curve**: when the **economy weakens** and output falls below potential, **inflation tends to fall**; when the **economy strengthens**, **inflation tends to rise**. The steepness of this relationship matters for policy. A **steep Phillips curve** means that a **small slowdown** in activity produces a **large fall in inflation**—disinflation is "cheap" in terms of lost output. A **flat Phillips** curve means the opposite: inflation responds less to changes in activity, so **reducing inflation requires a larger, more persistent economic slowdown**.

Our analysis shows that as **trend inflation rises**, price dispersion widens and the **Phillips curve becomes flatter**. A given **interest rate hike** therefore has a **smaller effect on inflation** but a **larger and more persistent effect on output** and the debt-to-GDP ratio. Although tighter monetary policy still reduces inflation, it does so less efficiently when trend inflation is high—each percentage point of disinflation comes at the cost of a larger temporary loss of output.

At the same time, automatic stabilisers become less effective. Automatic stabilisers are the parts of the fiscal system that adjust automatically with the economic cycle—tax revenues fall and unemployment-related spending rises during downturns, cushioning the blow to households. Our model captures these channels through its two-household structure: while forward-looking households (Ricardian) can smooth their consumption by saving and borrowing, financially constrained households (non-Ricardian) depend on current income and government transfers. When trend inflation is higher and the Phillips curve is flatter, monetary policy must work harder to reduce inflation, leading to deeper and more prolonged output losses. This places greater strain on automatic stabilisers and on the households who depend on them most.

We can quantify the output cost of disinflation using the sacrifice ratio: the output loss required to reduce inflation by one percentage point. At 0% trend inflation, our model implies a sacrifice ratio of around 1: reducing inflation by one percentage point requires output to fall roughly 1% below potential for one year. At 4% trend inflation, the sacrifice ratio rises to about 1.6. At 6%, it roughly doubles to about 2. A higher underlying inflation rate therefore demands a larger, more persistent contraction in output to bring inflation back down.

Policymakers therefore face a larger output-inflation trade-off in high-inflation regimes. In such environments, a more cautious approach to tightening may be warranted than when trend inflation is low.

4. Policy Implications

Our analysis highlights the real economic costs of higher trend inflation, and identifies price dispersion as the key mechanism through which these costs arise. Higher trend inflation widens price dispersion, leading to persistent resource misallocation and lower long-run output. It also flattens the Phillips curve, reducing the economy's ability to absorb shocks and raising the sacrifice ratio. At 6% trend inflation, for example, reducing inflation by one percentage point requires roughly twice the output loss as at zero trend inflation. The welfare costs of trend inflation are therefore twofold: permanently lower output, and costlier macroeconomic stabilisation over the business cycle.

We draw important policy lessons from our analysis:

1. **Lower is better:** Higher trend inflation generates greater price dispersion, which depresses long-run output and welfare.
2. **The Phillips curve flattens:** When trend inflation is higher, inflation responds less to changes in economic activity, and the sacrifice ratio rises—a larger loss of output is needed to achieve the same reduction in inflation.
3. **Standard policy rules may underestimate what's needed:** Policy frameworks that do not account for trend inflation may recommend interest rate changes that are too small or too slow to bring inflation back under control.

These findings carry clear implications for monetary policy in South Africa. Anchoring trend inflation lower reduces the costs of price dispersion, restores responsiveness of inflation to economic slack (a steeper Phillips curve), and improves the macroeconomic welfare trade-off. For South Africa, this strengthens the case for keeping long-run inflation expectations anchored close to the recently announced 3% inflation target, rather than simply tolerating inflation outcomes anywhere within the historic 3‑6% band. Our analysis does not identify an optimal level of trend inflation as this involves additional considerations that we explore in forthcoming work. Although within the range we examine, lower is more favourable.

5. References

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