

Indexed versus nominal government debt  
under inflation and price-level targeting

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PII: S0165-1889(14)00135-3  
DOI: <http://dx.doi.org/10.1016/j.jedc.2014.05.020>  
Reference: DYNCON3013

To appear in: *Journal of Economic Dynamics & Control*

Received date: 19 June 2013  
Revised date: 6 April 2014  
Accepted date: 29 May 2014

Cite this article as: Michael Hatcher, Indexed versus nominal government debt under inflation and price-level targeting, *Journal of Economic Dynamics & Control*, <http://dx.doi.org/10.1016/j.jedc.2014.05.020>

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## Indexed versus nominal government debt under inflation and price-level targeting

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6 April, 2014

### Abstract

This paper presents a DSGE model in which long run inflation risk matters for social welfare. Optimal indexation of long-term government debt is studied under two monetary policy regimes: inflation targeting (IT) and price-level targeting (PT). Under IT, full indexation is optimal because long run inflation risk is substantial due to base-level drift, making indexed bonds a better store of value than nominal bonds. Under PT, where long run inflation risk is largely eliminated, optimal indexation is substantially lower because nominal bonds become a relatively better store of value. These results are robust to the PT target horizon, imperfect credibility of PT and model calibration, but the assumption that indexation is lagged is crucial. A key finding from a policy perspective is that indexation has implications for welfare comparisons of IT and PT.

**Keywords:** government debt; inflation risk; inflation targeting; price-level targeting.

**JEL classification:** E52, E63

### 1. Introduction

Long-term government debt plays an important role in many developed economies. Since contracts of this kind are denominated in nominal terms or imperfectly indexed, unanticipated changes in inflation which are not reversed will lead to fluctuations in real wealth. These fluctuations are important for old generations because they rely on long-term contracts to fund their consumption in retirement. The magnitude of revaluations in long-term contracts due to unanticipated inflation depends crucially upon the amount of long run inflation risk in the economy. This observation motivates a comparison of the costs and benefits of inflation targeting (IT) and price-level targeting (PT) regimes. Under IT, unanticipated shocks to the price level are not reversed by policy, so there is base-level drift. As a result, inflation risk rises with the forecast horizon.<sup>1</sup> By contrast, PT offsets unanticipated shocks to inflation in

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<sup>1</sup> That is, the price level follows a random walk. Inflation risk increases with the forecast horizon in this case because inflation between period  $t$  and  $t+k$  depends on the ratio of the price level in period  $t+k$  to that in period  $t$ .

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