

Mild Deflation and Adjustment in Recessions: Lessons from Japan

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1. Which non-linearity in the Phillips curve? The absence of accelerating deflation in Japan. (Job market paper.)

It is standard in the literature to model the output-inflation trade-off as a linear relationship with a time-invariant slope. As this paper argues, Japan's recent experience is a striking example of why it is important to account for time-variation in the slope of the Phillips curve, and to understand the determinants of such time-variation.

In Japan, protracted large negative output gaps during the period 1998-2002 did not lead to accelerating deflation, but instead coincided with stable, be it moderately negative inflation. We document that these facts are widely out of line with the linear model's predictions. Furthermore, we find evidence against popular explanations for the absence of massive deflation, other than those focusing on the slope of the short-run Phillips curve.

Papers detecting a flattening in the Japanese Phillips curve never explicitly estimated any model of non-linearity. In this paper, we find that three theories of non-linearity are consistent with the data. In particular, our results favor the hypothesis that declining trend inflation caused firms to set their output prices less frequently, which would explain the observed flattening in the Phillips curve. This suggests that, in any economy where trend inflation is currently low compared to past inflation experience, time-variation in the slope of the Phillips curve has become too important to ignore.

2. The rise in the share of non-standard employees in Japan: a general equilibrium analysis. (In progress.)

As discussed in the first essay, one factor behind the absence of downward nominal wage rigidity in Japan at a macro level is the shift towards more flexible and lower paid types of labor, such as part-time and temporary employees. This increased use of non-standard workers is perceived as a key fact in Japan, but there is as of yet no theoretical model to analyze its causes and effects. Chapter 2. aims to build a dynamic, general equilibrium model involving optimizing firms and workers, designed to analyze the factors behind the increase in the share of non-standard workers. This chapter is likely to yield policy implications for Europe, where firing restrictions on regular workers are important as well (be it perhaps not 'infinite' as in Japan), and where non-standard workers have become more prevalent in particular countries.

3. Is there any relationship between firm-level and aggregate volatility? The case of Japan. (In progress.)

The third chapter documents the behavior of aggregate and firm-level volatility in Japan. On the one hand, this paper is an empirical complement to the second chapter. While most of the hypotheses for the increased share of non-standard workers are well documented, there is no or limited evidence as to whether firm-level volatility has increased in Japan. The third chapter aims to provide such evidence. On the other hand, the third chapter takes a critical look at the claim in an NBER Macro Annual paper by Comin and Philippon (2005), based on U.S. data, that there is a necessarily negative relationship between aggregate and firm-level volatility. Our results, based on earnings and employment data for about 4,000 Japanese firms, suggest that a similar negative relationship is not present in Japan. We are currently examining robustness across databases and across econometric methodologies.