



Available online at www.sciencedirect.com

ScienceDirect

Journal of Policy Modeling xxx (2017) xxx–xxx

Journal of
Policy
Modeling

www.elsevier.com/locate/jpm

Will US inflation awake from the dead? The role of slack and non-linearities in the Phillips curve[☆]

Bruno Albuquerque^{a,*}, Ursel Baumann^b

^a Ghent University, Sint-Pietersplein 5, 9000 Gent, Belgium

^b European Central Bank, Sonnemannstrasse 20, 60314 Frankfurt am Main, Germany

Received 22 September 2016; received in revised form 3 December 2016; accepted 9 January 2017

Abstract

The response of US inflation to the high levels of spare capacity during the Great Recession of 2007–09 was rather muted. At the same time, some have argued that the short-term unemployment gap has a more prominent role than the standard unemployment gap in determining inflation, and either the closing of this gap or non-linearities in the Phillips curve could lead to a sudden pick-up in inflation. In this context, our main aim is to provide guidance to policymakers as regards the reliability of the Phillips curve to forecast inflation. Our main findings from Phillips curves estimated since the early-1990s suggest that the consideration of a time-variation in the Phillips curve slope is more relevant than just focusing on finding the “correct” slack measure. Although the Phillips curve may be relatively flat over the full sample (1992Q1–2015Q1), time-varying estimates with rolling windows and with the Kalman filter suggest that the slope does vary over time and that it has increased slightly since 2013. These non-linear specifications outperform the benchmark linear model in an out-of-sample exercise. The main policy implication is that decision-makers should not exclude the possibility that inflation might rise suddenly given its non-linear behaviour, and more strongly than a linear model would dictate.

© 2017 The Society for Policy Modeling. Published by Elsevier Inc. All rights reserved.

JEL classifications: E31; E37; E58

Keywords: Phillips curve; Labour market slack; Inflation dynamics; Forecasting

[☆] We would like to thank the Editor A.M. Costa and anonymous referees for their useful comments in reshaping the paper. The opinions expressed in this paper are those of the authors and do not necessarily reflect the views of the ECB or of the Eurosystem.

* Corresponding author.

E-mail addresses: bruno.albuquerque@ugent.be (B. Albuquerque), ursel.baumann@ecb.europa.eu (U. Baumann).

<http://dx.doi.org/10.1016/j.jpolmod.2017.01.004>

0161-8938/© 2017 The Society for Policy Modeling. Published by Elsevier Inc. All rights reserved.

Please cite this article in press as: Albuquerque, B., & Baumann, U. Will US inflation awake from the dead? The role of slack and non-linearities in the Phillips curve. *Journal of Policy Modeling* (2017), <http://dx.doi.org/10.1016/j.jpolmod.2017.01.004>

1. Introduction

Understanding the behaviour of inflation in the recent past and the empirical validity of the Phillips curve framework is of key relevance to inflation-targeting central banks. This is so because Phillips curves remain one of the most important tools to project inflation over the medium term and, thereby, have the power to influence the conduct of monetary policy. In the current low inflation and low interest-rate environment, the Phillips curve framework helps determine how quickly diminished slack in the US economy will translate into inflation in the future. This is crucial to influence the Fed reaction function and the pace of the ensuing monetary policy normalization.

Following the Great Recession of 2007–09, a widely-held view is that the response of inflation to the high levels of spare capacity in the United States was rather muted. For example, using Phillips curves estimated over long data samples, [Ball and Mazumder \(2011\)](#) find that inflation should have fallen by more than it did between 2008–10. The “missing deflation puzzle” has also surprised policymakers ([Williams, 2010](#)).¹ This puzzle has led to an intense debate over whether the Phillips curve is still “alive”, as argued by [Gordon \(2013\)](#) and [Coibion and Gorodnichenko \(2015\)](#).

Before testing the usefulness of the Phillips curve for forecasting inflation, we take stock of the current debate on the apparent breakdown in the Phillips curve. A number of reasons have been put forward for this breakdown. First, inflation expectations have become more anchored, reflecting an increase in central bank credibility ([Ball & Mazumder, 2011](#); [Hatzius & Stehn, 2014](#); [Watson, 2014](#)). Second, the role of (external) supply shocks has increased over time, making inflation less sensitive to domestic developments ([Gordon, 2013](#); [Watson, 2014](#)). Third, downward nominal wage rigidities that dampen the fall in inflation imply that the Phillips curve may perform poorly if non-linearities in the relationship between inflation and labour market slack are not considered ([Ball & Mazumder, 2011](#); [Debelle & Laxton, 1997](#); [Peach, Rich, & Cororaton, 2011](#)). Finally, the combination of policy uncertainty surrounding policy makers’s future behaviour at the zero lower bound and the inflationary pressure from a large debt stock may have also played a role in preventing deflation during the Great Recession ([Bianchi & Melosi, 2017](#)).

Another reason put forward for the breakdown in the Phillips curve is the possibility of mis-measurement in labour market slack. Indeed, the slack in the labour market has been more difficult to measure over the recent business cycle, especially in the light of the large decline in the participation rate ([Krueger, Cramer, & Cho, 2014](#); [Rudebusch & Williams, 2016](#); [Watson, 2014](#)). We should then be asking how to best measure economic slack and what concept of slack is most appropriate in determining movements in inflation. On the one hand, some economists and policymakers have pointed out that during the economic recovery that followed the Great Recession, slack in the labour market may have been more substantial than suggested by the unemployment gap, which could explain the temporary breakdown in the Phillips curve. Along the same lines, Fed Chair Janet Yellen at the 2014 Jackson Hole Economic Symposium indicated that the decline in the unemployment rate since the Great Recession may have overstated the improvement in overall labour market conditions, as shown by a labour market conditions index developed by Federal Reserve Board staff ([Yellen, 2014](#)). On the other hand, some argue that the relationship between inflation and unemployment is restored back to normal historical patterns if a narrower measure of slack, the short-term unemployment (those unemployed for less than

¹ “The surprise is that it [inflation]’s fallen so little, given the depth and duration of the recent downturn. Based on the experience of past severe recessions, I would have expected inflation to fall by twice as much as it has.”

Download English Version:

<https://daneshyari.com/en/article/5101678>

Download Persian Version:

<https://daneshyari.com/article/5101678>

[Daneshyari.com](https://daneshyari.com)