Title: Is the Phillips Curve Still a Curve? Evidence from the Regions

Authors: James Bishop and Emma Greenland

Description

This 'read me' file contains details of the code and data included in this archive that were used to generate the results reported in RDP 2021-09. Publically available plotting data for figures appearing in the RDP can be found in the spreadsheet 'rdp-2021-09-graph-data.xls'.

If you make use of any of these files you should clearly attribute the authors in any derivative work.

Data

All of the data used for the regional analysis this RDP are available in the 'data' subfolder. These following data sources were used:

- SA2-level data on total employee income per employee:
  - ABS release 'Personal Income in Australia (2011/12-2017/18)'
  - ABS release 'Estimates of Personal Income for Small Areas (2010/11-2015/16)'
  - ABS release 'Estimates of Personal Income for Small Areas (2005/06-2010/11)'
- SLA-level data on total employee income per employee
  - ABS release 'Estimates of Personal Income for Small Areas (2003/04-2008/09)'
  - ABS release 'Estimates of Personal Income for Small Areas (2001/02-2005/06)'
  - ABS release 'Experimental Estimates of Personal Income for Small Areas, Taxation and Income Support Data (1995/96-2000/01)'
- SA2-level data on unemployment rates:
  - 'Small Area Labour Markets' statistics from the National Skills Commission, June quarter 2020 vintage
- SLA-level data on unemployment rates:
  - 'Small Area Labour Markets' statistics from the Department of Education, Employment and Workplace Relations (provided on request)
- SLA to SA2 (ASGS 2011) correspondence files:
  - ABS 'ASGS Geographic Correspondences (2011)' available at <https://data.gov.au/data/dataset/4b208cc1-f5de-405d-af96-0777645dfc87>
- SA2 (ASGS 2011) to SA2 (ASGS 2016) correspondence file:
  - ABS 'Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas, July 2016'
- SA2 digital boundary files:
  - ABS release 'Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas, July 2011', Statistical Area Level 2 (SA2) ASGS Ed 2011 Digital Boundaries in ESRI Shapefile Format
  - ABS release 'Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas, July 2016', Statistical Area Level 2 (SA2) ASGS Ed 2016 Digital Boundaries in ESRI Shapefile Format
- Award reliance by industry:
  - ABS release 'Employee Earnings and Hours, Australia, May 2018', Table 1 of the Article on 'A guide to understanding employee earnings and hours statistics', non-managerial employees

- SA2 employment by 1-digit industry:
  - ABS 2016 Census of Population and Housing, 'Time Series Profile', Table 34
- Employment counts by 'place of usual residence' cross-tabulated by 'place of work'
  - ABS Census TableBuilder, cross-tabulating 'Place of Usual Residence' by 'Place of Work' at the SA2 level separately for both the 2011 and 2016 Census of Population and Housing
- Functional economic regions:
  - CofFEE Functional Economic Regions, available at <http://www.fullemployment.net/fer.php>
  - Productivity Commission Functional Economic Regions, available in 'Supporting Material' at <https://www.pc.gov.au/inquiries/completed/transitioning-regions/report>
- Wage price index by state
  - ABS release 'Wage Price Index, Australia', Table 2b, Total hourly rates of pay excluding bonuses

The time series data underlying the RBA's aggregate model estimate are not provided in this supplementary material.

Figure data

Data for all figures are publically available. All figures can be generated with the data and program files provided.

Code

The results reported in this RDP were generated using Stata 16.1.

Included in this archive are the following programs:

- 0_master.do
- 1_geography.do
- 2_wages.do
- 3_unemp.do
- 4_award_share.do
- 5_labour_markets.do
- 6_table_b1.do
- 7_combined.do
- 8_figures_5and6.do
- 9_regressions.do

Running 0_master.do will run the other programs in the order indicated by the numerical prefix of each file. Note that the user's current directory will need to be added to line 20 of this program for it to run properly.

1_geography.do, 2_wages.do, 3_unemp.do and 4_award_share.do extract and compile the relevant data for the analysis. 5_labour_markets.do constructs our preferred classification of local labour markets, while 6_table_b1 creates Table B1. Running 7_combined.do combines the data into a 'master' file suitable for regression analysis. Figures 5 and 6 are generated by running 8_figures_5and6.do, while 9_regressions.do generates the regression results reported in the RDP, along with the estimates presented in Figures 7 and 8.

Other figures

Figure 1 plots the unemployment rate (seasonally adjusted, series: A84423050A) from the ABS release 'Labour Force, Australia'.

Figure 2 is based on job-level WPI data. Data accessed during a secondment to the ABS – not available for release.

Figures 3 and 4 are generated in 'RBA Aggregate Models - calculations.xlsx' in the 'output' subfolder.

Reference material

Cusbert T (2019), 'Estimating the Curvature of the Phillips Curve: Evidence from Aggregate Data', Unpublished manuscript, Reserve Bank of Australia, 19 December

31 August 2021