Comments on: “Estimation and Analysis of Euro Area Potential Output Growth”

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Overview

1. Summarize paper

2. Put growth accounting results into perspective

    i. Check robustness: use a different methodology

    ii. Complement discussion: compare to other countries

Summary of the paper

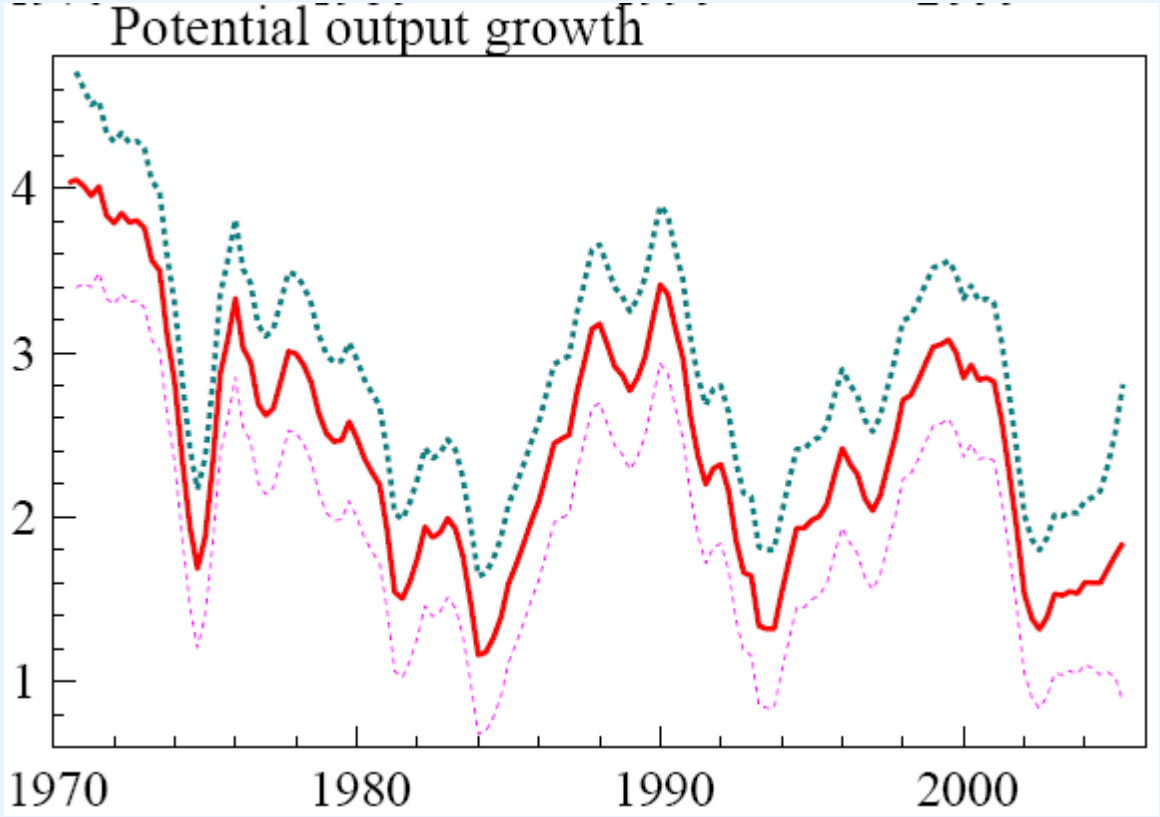
- PMW (2006): Model-based approach to estimate euro area potential output and its components
  - Production function combined with Phillips-type relationship
  - Multivariate unobserved components model
  - Pseudo-integrated cycles model

Euro area growth accounting results

- Evidence of significant slowdown in euro area productivity growth
- Contribution of population and trend productivity growth decreases while contribution of labour utilisation rises
- Labour utilisation dynamics are driven by:
  - Increasing trend participation rate and lower trend unemployment rate
  - Weaker trend hours worked
- Trend labour productivity slowdown result of both lower trend TFP growth and reduced trend capital deepening

Smoothness issue

- Potential output growth estimates from PFA suffer from excess cyclicality



Model-based optimal smoothness

- Introduce smoothness coefficient in PFA such that output is decomposed into high-pass and low-pass components
- Maximum likelihood indicates what value is required for potential to be consistent with stable inflation
- Fluctuations with periodicity of less than 5 quarters should be assigned to the output gap

An alternative methodology

- Gosselin - Lalonde (Empirical Economics, forthcoming): eclectic approach (EA) applied to the U.S.
- Combination of SVARs and EMVFs to estimate components of trend labour input and productivity
- Blanchard-Quah decomposition: restrictions on long-run impact of structural shocks
- EA allows to reduce end-of-sample bias and excess volatility

Eclectic approach (EA) specification

- Data kindly provided by the authors, same sample period
- EA applied to euro area
  - Participation rate
  - Unemployment rate
  - Hours worked
  - Average labour productivity

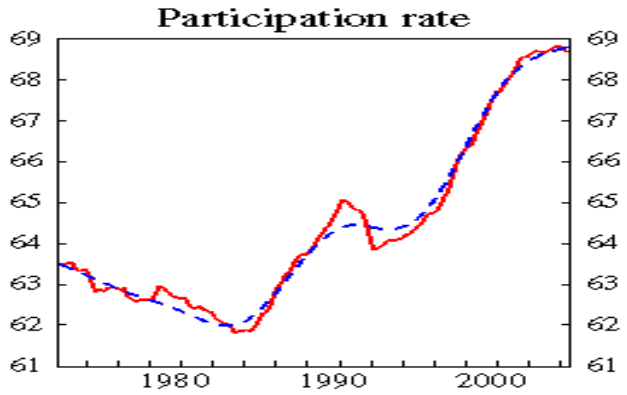
$$Y_t^e = L_t^e \times \left(\frac{Y_t}{L_t} \right)^e ,$$

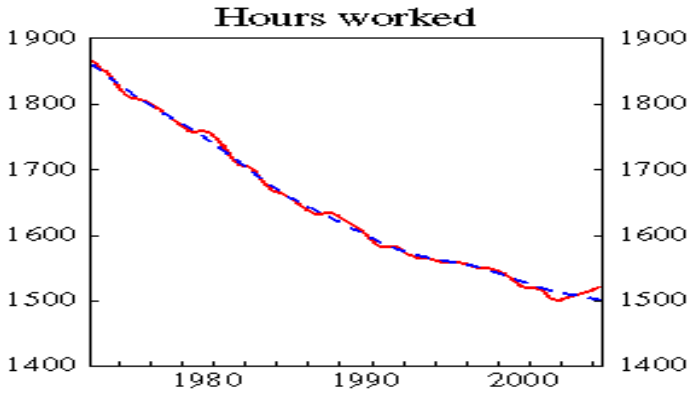
$$L_t^e = POP_t \times PART_t^e \times (1 - UR_t^e) \times H_t^e ,$$

- 4-variable SVARs
  - Variable of interest
  - Inflation
  - Short-term real interest rates
  - Long-term real interest rates

$$\tau = \min T(\tau) = (\tau - X)' W_X (\tau - X) + (\tau - \hat{X}_{SVAR})' W_{\hat{X}_{SVAR}} (\tau - \hat{X}_{SVAR}) + \lambda \tau' D' D \tau .$$

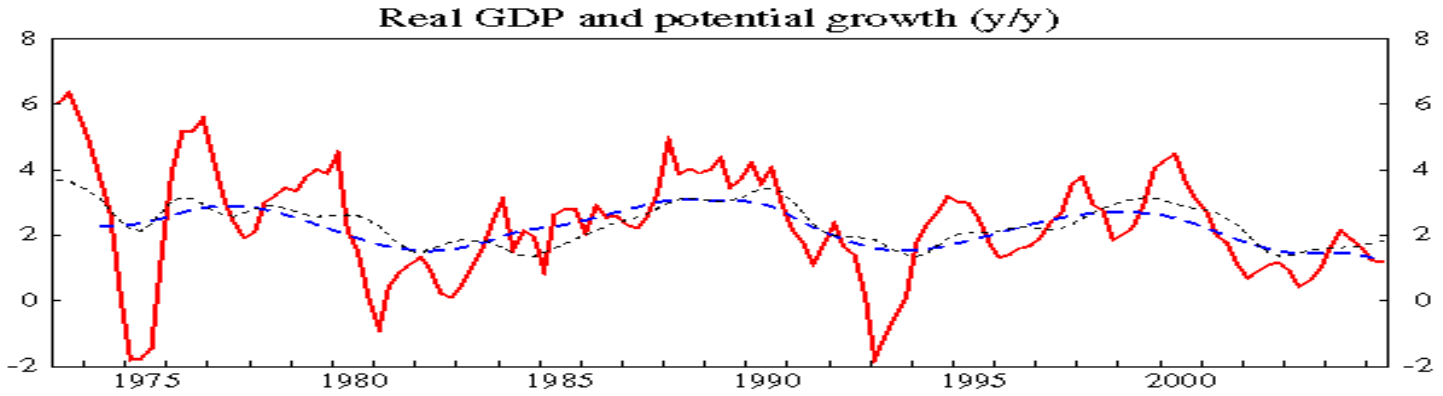
Eclectic Approach Results
-Euro Area-



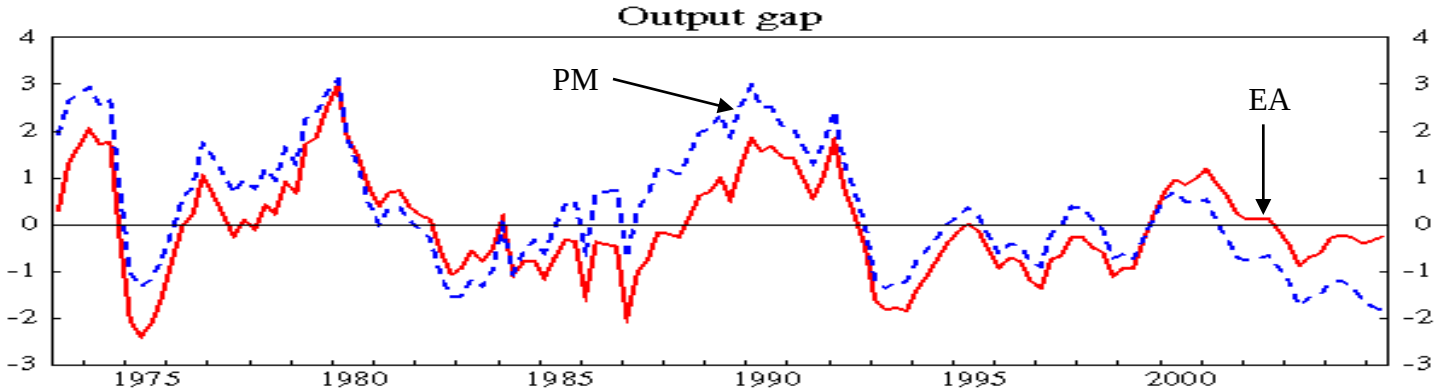


solid: actual, dashed: EA

Eclectic Approach Results
-Euro Area-



solid: actual, dashed: EA, dotted: PM



Euro area growth decomposition

- 2 methodologies -

	Population		Lab. productivity		Participation rate		Unemployment rate		Hours worked		Potential GDP	
	PM	EA	PM	EA	PM	EA	PM	EA	PM	EA	PM	EA
1970s	0.8	0.8	3.7	3.3	-0.2	-0.2	-0.5	-0.6	-0.9	-0.9	2.9	2.4
1980s	0.7	0.7	2.5	2.5	0.3	0.3	-0.3	-0.3	-1.0	-0.9	2.3	2.4
1990s	0.3	0.3	1.9	1.8	0.5	0.5	0.1	0.0	-0.5	-0.4	2.3	2.1
1991-1995	0.4	0.4	2.1	2.2	0.2	0.1	-0.3	-0.4	-0.5	-0.5	1.9	1.8
1996-2000	0.2	0.2	1.6	1.4	0.9	0.9	0.5	0.4	-0.5	-0.4	2.7	2.5
2001-2005	0.4	0.4	0.7	1.1	0.5	0.4	0.1	0.0	0.1	-0.4	1.8	1.5

- Population identical
- Similar trend labour productivity slowing, smaller in latest period
- Trend hours continue to contribute negatively in 01-05
- Slightly weaker trend participation and unemployment rates
- Fairly similar estimates of potential output growth

Euro area growth decomposition

- Comparison to U.K. and U.S. (EA) -

	Population			Lab. productivity			Participation rate			Unemployment rate			Hours worked			Potential GDP		
	Euro	UK	US	Euro	UK	US	Euro	UK	US	Euro	UK	US	Euro	UK	US	Euro	UK	US
1980s	0.7	0.5	1.2	2.5	2.1	1.7	0.3	0.2	0.4	-0.3	0.0	0.3	-1.0	-0.3	-0.3	2.3	2.5	3.3
1990s	0.3	0.3	1.2	1.9	2.3	1.8	0.5	-0.2	0.1	0.1	0.3	0.1	-0.5	-0.2	-0.1	2.3	2.5	3.0
91-95	0.4	0.2	1.0	2.1	2.5	1.4	0.2	-0.5	0.1	-0.3	0.0	0.0	-0.5	-0.2	0.0	1.9	2.0	2.5
96-00	0.2	0.4	1.3	1.6	2.2	2.1	0.9	0.1	0.0	0.5	0.7	0.2	-0.5	-0.3	-0.2	2.7	3.1	3.4
01-05	0.4	0.7	1.3	0.7	2.0	2.2	0.5	0.1	-0.2	0.1	0.1	-0.1	0.1	-0.3	-0.1	1.8	2.6	3.1

- Key differences and similarities
  - Much stronger population growth in the U.S.
  - U.S. and U.K. trend productivity 3 times larger in latest period
  - Stronger contribution of trend participation rate in euro area
  - Trend unemployment rate rarely a big contributor
  - Trend hours worked almost always negative
- Potential output stronger in U.S. and U.K.
  - Stronger trend productivity and population growth

Conclusion

- Interesting and useful paper
  - Model-based decomposition of euro area potential
  - Optimal smoothing issue promising
- Key results:
  - Slowdown in euro area trend productivity growth
  - Robust to choice of methodology
  - Poor performance of potential relative to U.S. and U.K.
- Why? Likely to persist?
  - ICT production, utilisation
  - Wholesale and retail trade (Wal-Mart)
  - Institutions, regulation, competition