REDUCING OUTPUT GAP REVISIONS IN THE OECD POTENTIAL OUTPUT METHODOLOGY

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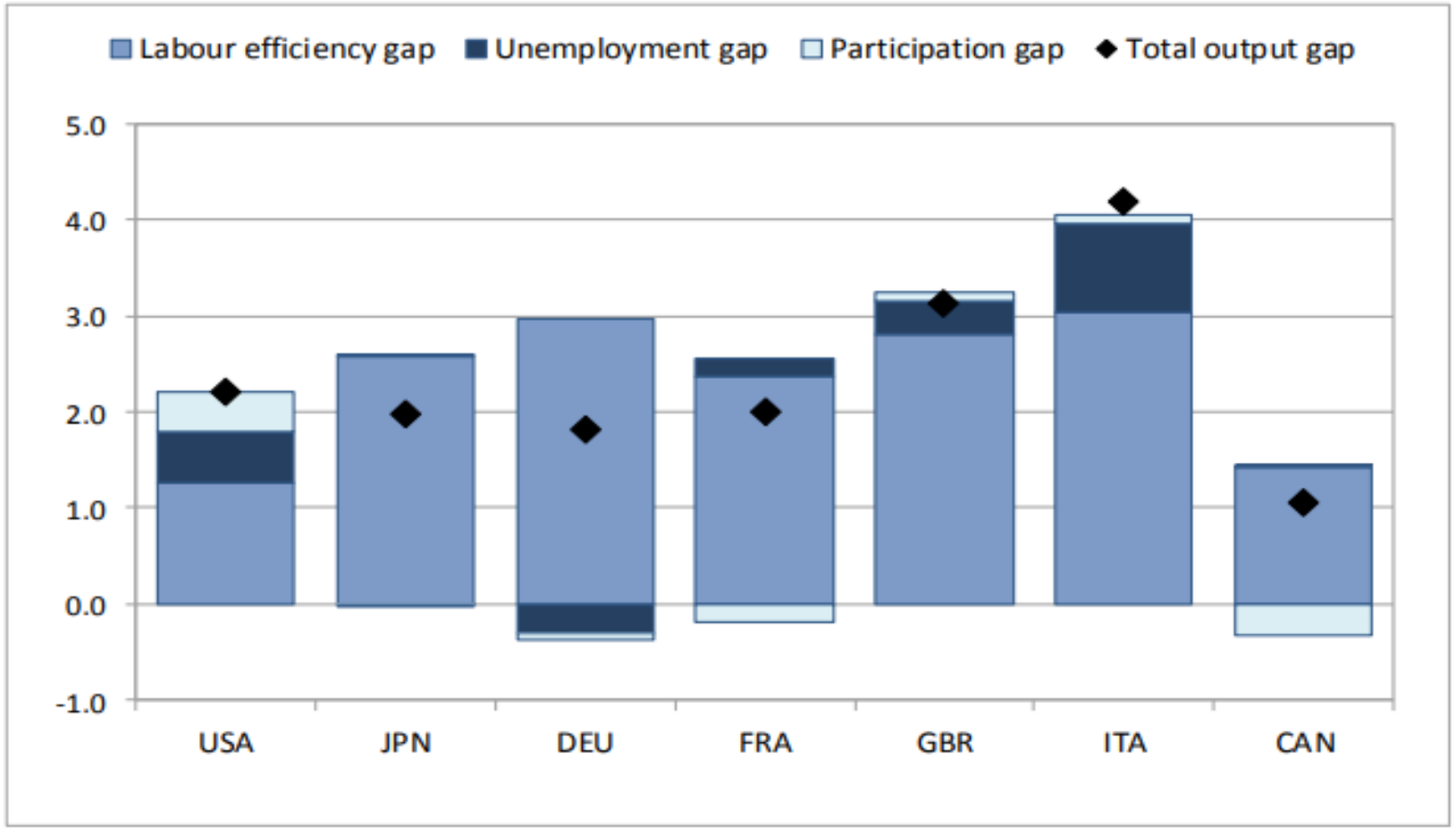
Based on “The OECD Potential Output Estimation Methodology”, by Thomas Chalaux and Yvan Guillemette (forthcoming).

BETTER POLICIES FOR BETTER LIVES

Substantial revisions to published G7 output gaps for 2007

	2007 Output gap		
	Initial estimate	Most recent estimate	Revision
United States	0.4	2.6	2.2
Japan	0.5	2.5	2.0
Germany	0.5	2.3	1.8
France	0.3	2.3	2.0
United Kingdom	0.2	3.4	3.1
Italy	-1.2	3.0	4.2
Canada	0.2	1.2	1.1
Average			2.3

Difference between initial and final 2007 estimates (% pts)



Algebra of adjustment method

Definition of (logged) labour efficiency: $e = y - \alpha k - (1- \alpha) n$

Initial labour efficiency: $egap_1 = e - HP(e)$

Regression on cyclical variables: $egap_1 = \theta(L)\, egap_1(-1) + \beta(L)\, X$

Adjusted labour efficiency: $e^* = e - \gamma(L)\, X$

Final labour efficiency gap: $egap_2 = e^* - HP(e^*)$

Form of adjustment variable

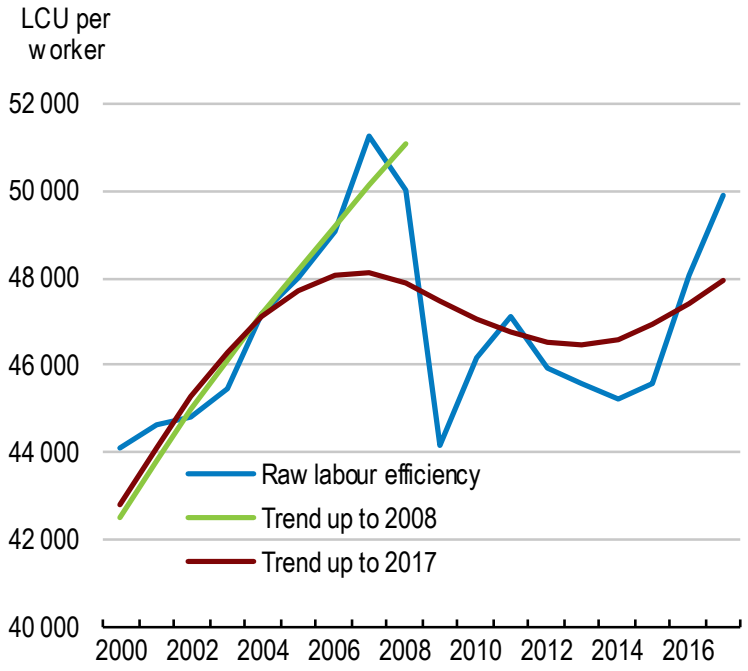
- Applied to **36** OECD, **2** Accession & **8** non-OECD countries
- Adjustment variable differs across countries:

Capacity Utilisation	Investment share	Current balance	Commodity prices
29	17	7	6

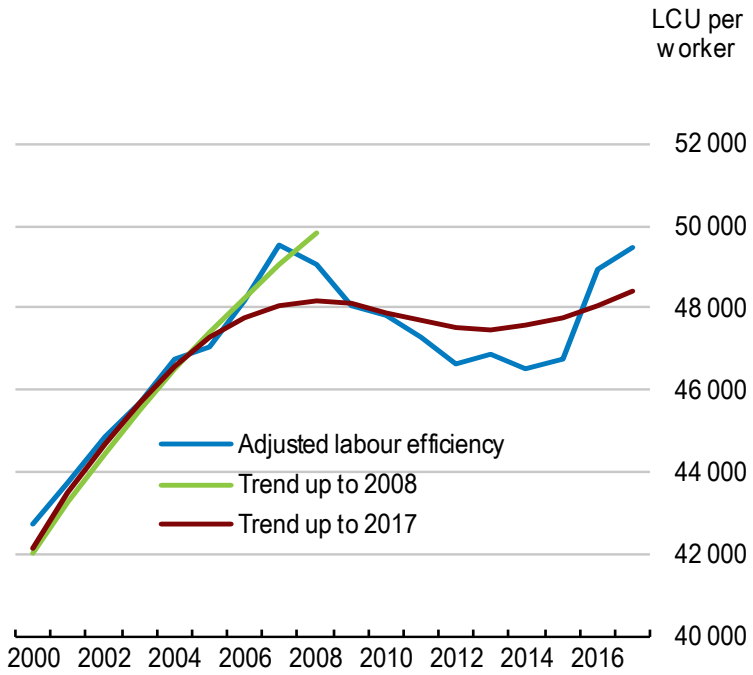
- **14** countries for which 2 variables used
- China is only country no adjustment variable found

FINLAND: trend labour efficiency

HP filter only

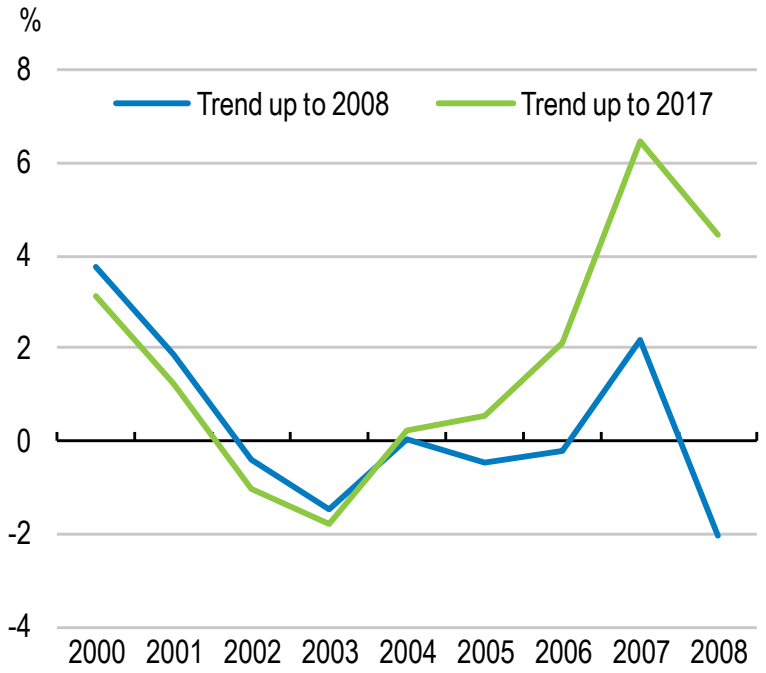


Cyclical adjustment + HP filter

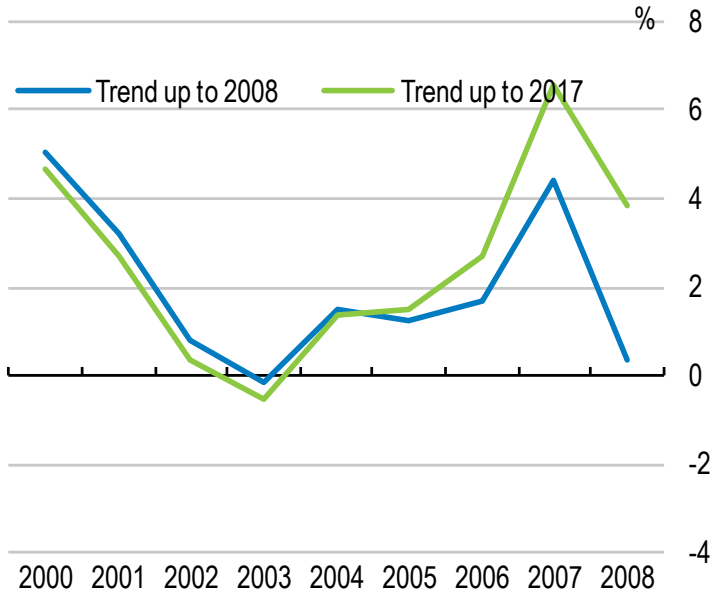


FINLAND: trend labour efficiency gap

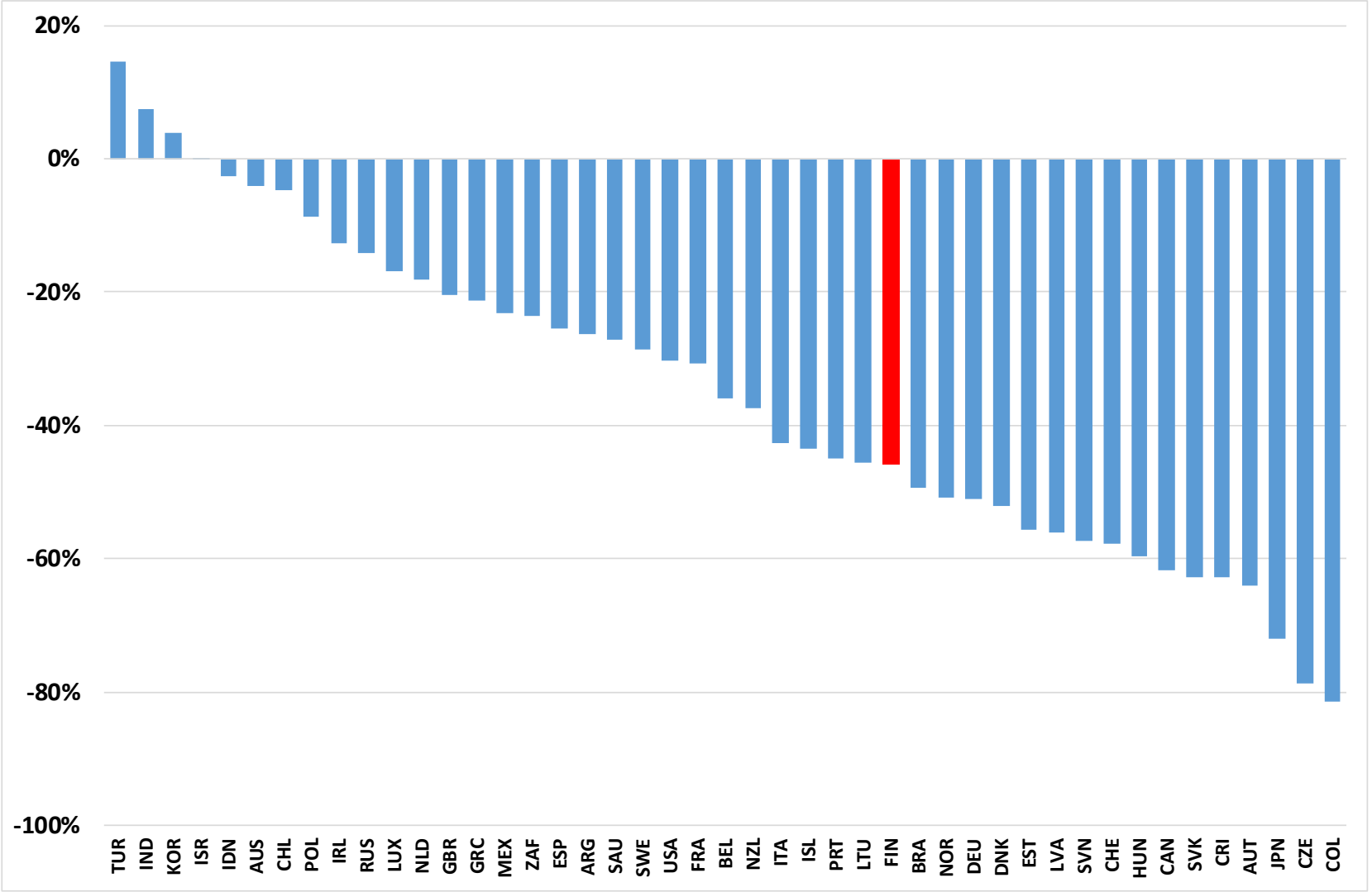
HP filter only



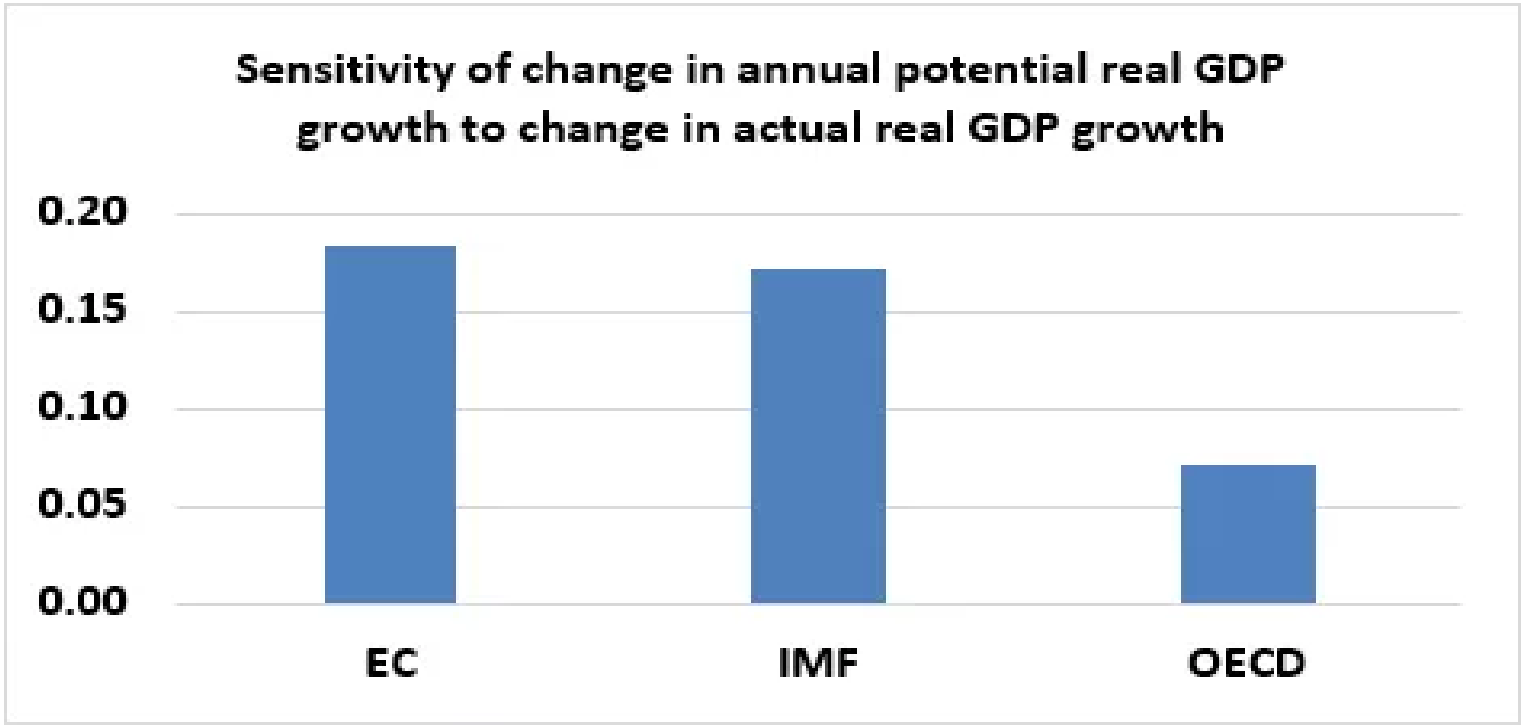
Cyclical adjustment + HP filter



Reduction in maximum revision (%)



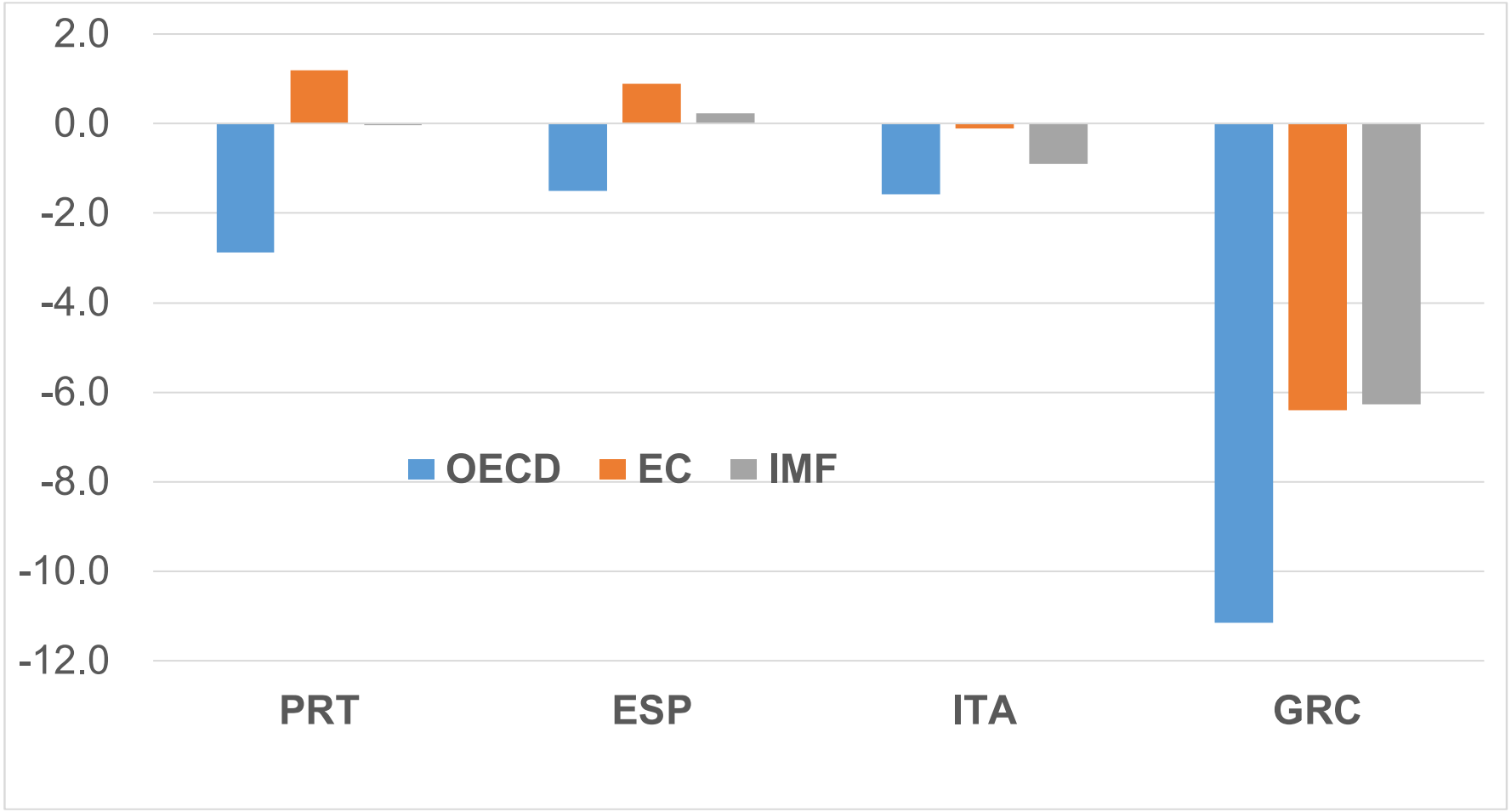
OECD estimates of potential growth are much less cyclical than those of IMF or EC



Note: The bars show the estimated coefficient $\hat{\beta}$ from the panel regression $\Delta p_{i,t} = \alpha + \beta \Delta g_{i,t}$, where $p_{i,t}$ is potential real GDP growth in country i and year t and $g_{i,t}$ is actual real GDP growth. Each regression uses 682 observations on the same 24 countries and available years spanning (at most) the period 1980 to 2017.

Current OECD estimates more negative in EA periphery

Output gaps in 2018

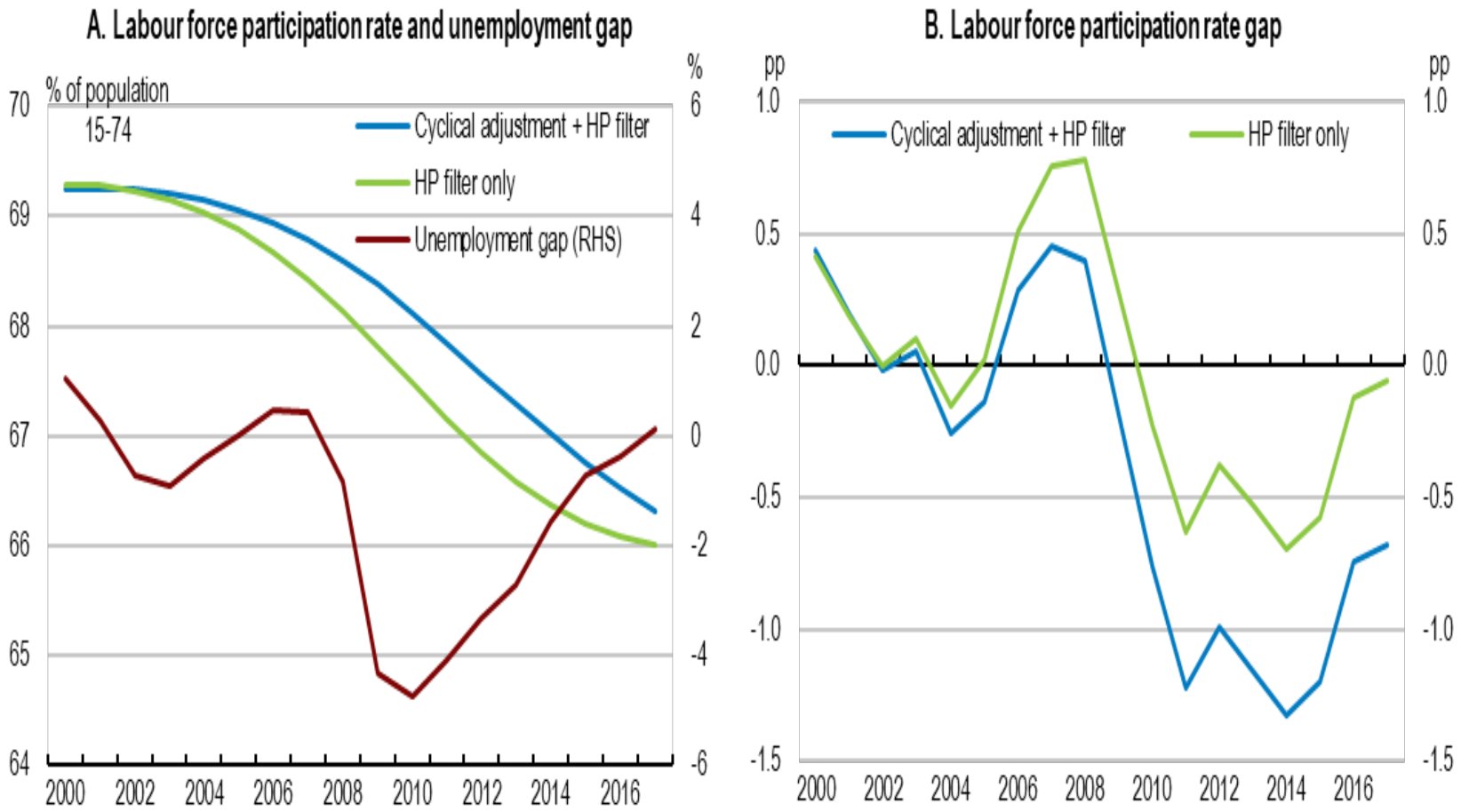


Source: forecasts published in May (EC, OECD) or April 2019 (IMF)

Merits of end-point adjustment process

- Does not rely on forecasts (“tail wagging the dog”)
- Conceptually simple and intuitive
- Method similar across countries, but different adjustment variables for different countries
- Reduces revisions across many countries relative to HP filter
- But scope for further improvement

United States: Trend labour force participation



References

- Chalaux, T. and Y. Guillemette (forthcoming), “The OECD Potential Output Estimation Methodology”,*OECD Economics Department Working Papers.*

- Yvan Guillemette and Thomas Chalaux (2018) “If potential output estimates are too cyclical, then OECD estimates have an edge”, OECD Economics Department Blogpost, oecdecoscope, October16.

- Turner, D., et al. (2016), "An investigation into improving the real-time reliability of OECD output gap estimates", *OECD Economics Department Working Papers*, No. 1294, OECD Publishing, Paris.

Impulse response function for the commodity price gap in Argentina

Impact of 1-point commodity price gap after *n* year on labour efficiency gap