The Slowdown of Potential Growth in the Western Balkans: Causes and Implications

Informal Seminar with International Financial Institutions on Economic Developments and Reforms in the Candidate Countries and Potential Candidates

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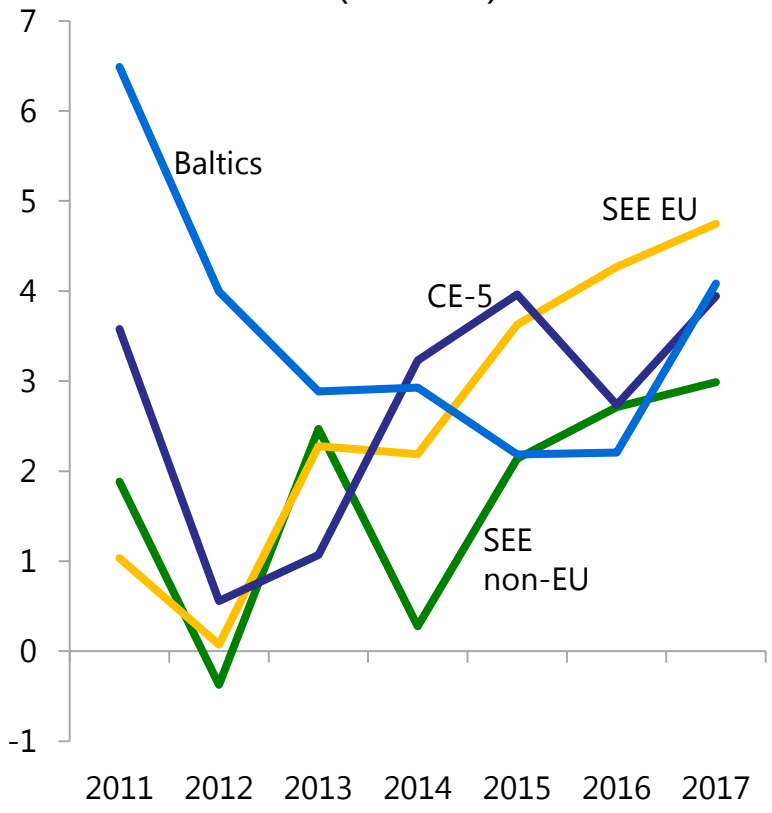
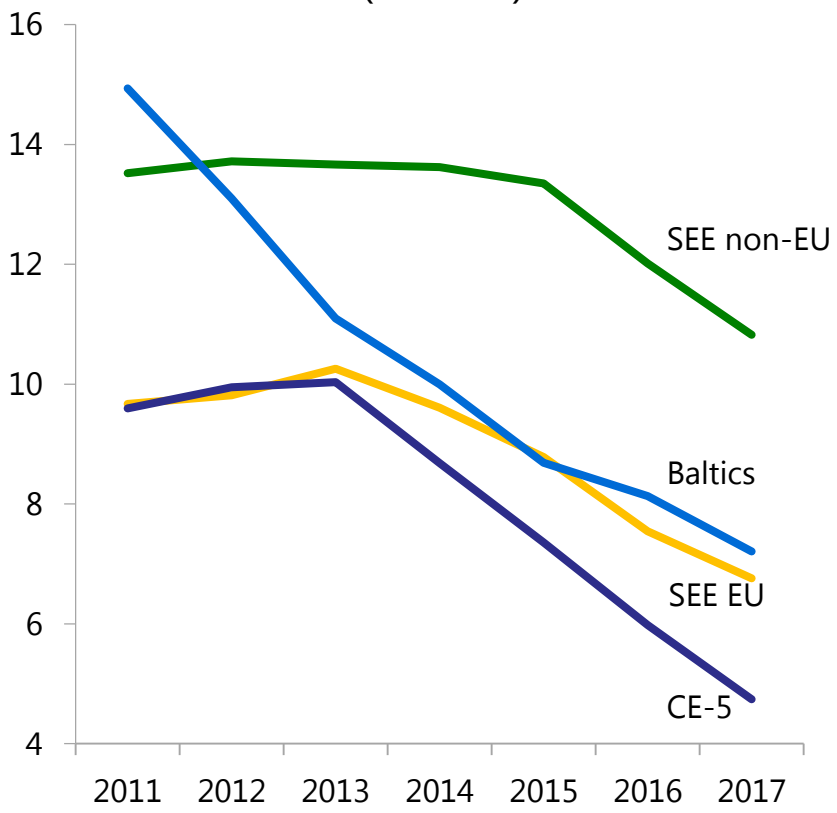
Non-CIS CESEE is doing very well.
Growth is rapid, and unemployment is falling sharply

Real GDP growth
(Percent)

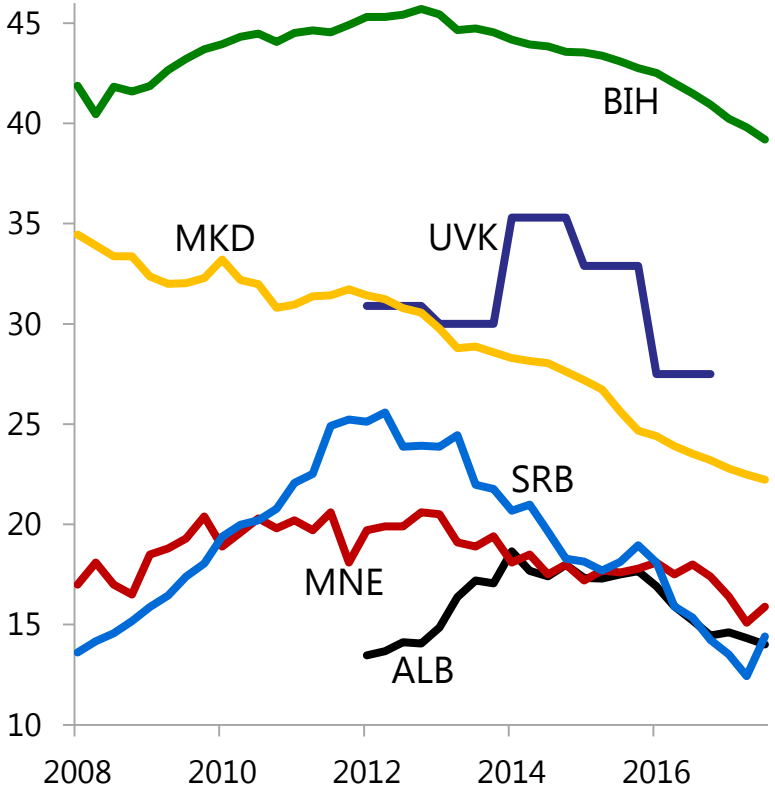


Unemployment Rate
(Percent)

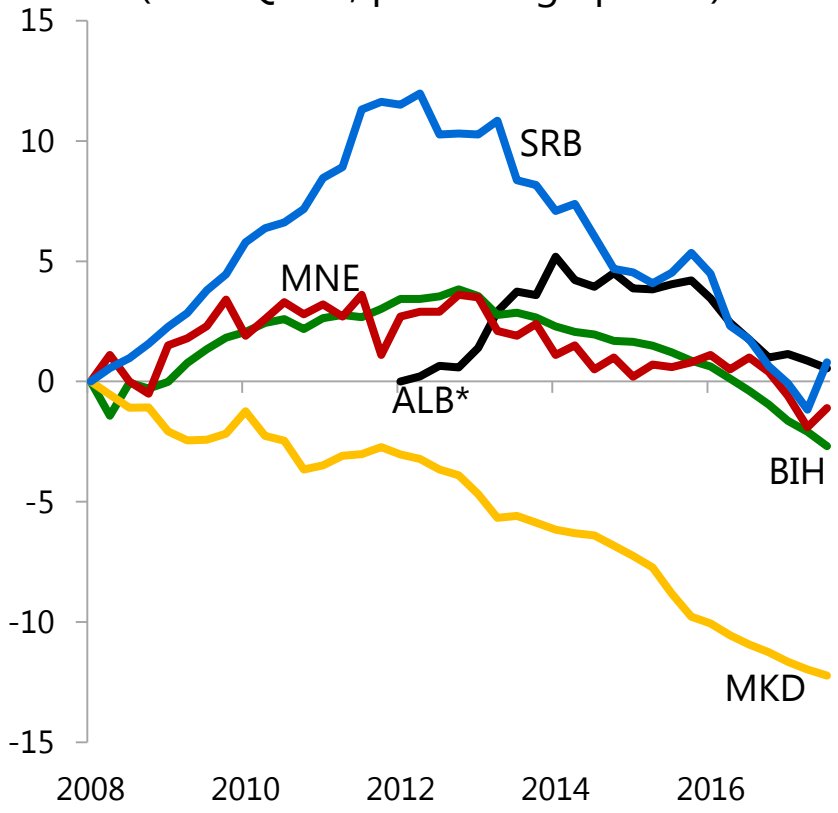


Unemployment is also declining rapidly in Western Balkans

Unemployment Rate
(Percent, seasonally adjusted)



Change in Unemployment Rate since 2008Q1
(2008Q1=0, percentage points)



*For ALB 2012Q1=0

Rapid decline of unemployment suggests output growing faster than potential

Okun's law in growth rate form:

$$\frac{\Delta Y}{Y} \approx \frac{\Delta Y^p}{Y^P} + c(\Delta u^* - \Delta\, u)$$

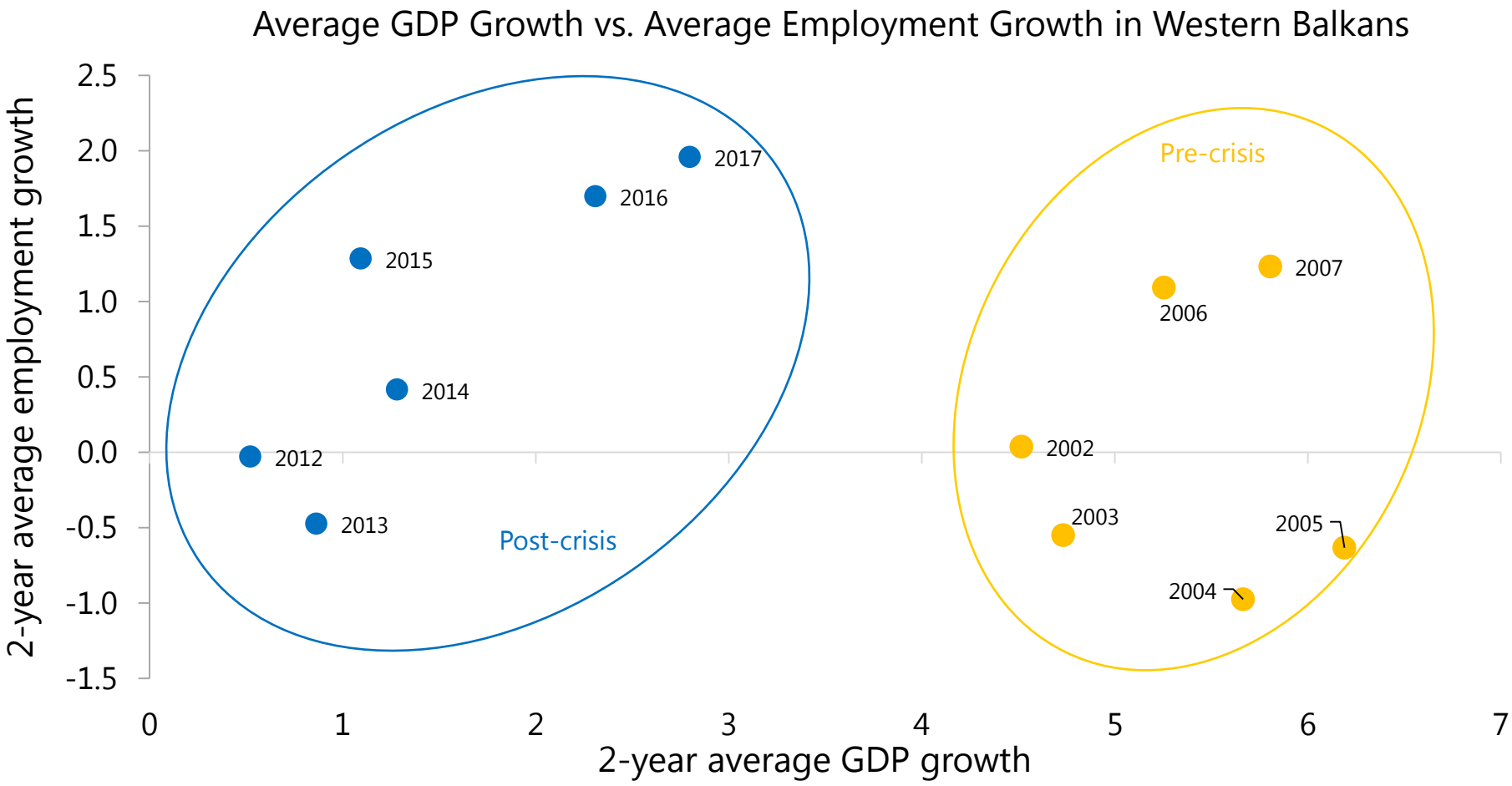
where:

- Y is real GDP
- Y^p is potential GDP
- u is the unemployment rate
- u* is the NAIRU

If $\Delta u^* \approx 0$ then

$$\frac{\Delta Y}{Y} - \frac{\Delta Y^p}{Y^P} \approx -c\Delta\, u$$

Employment grows *faster* than pre-crisis, even though GDP growth is much lower

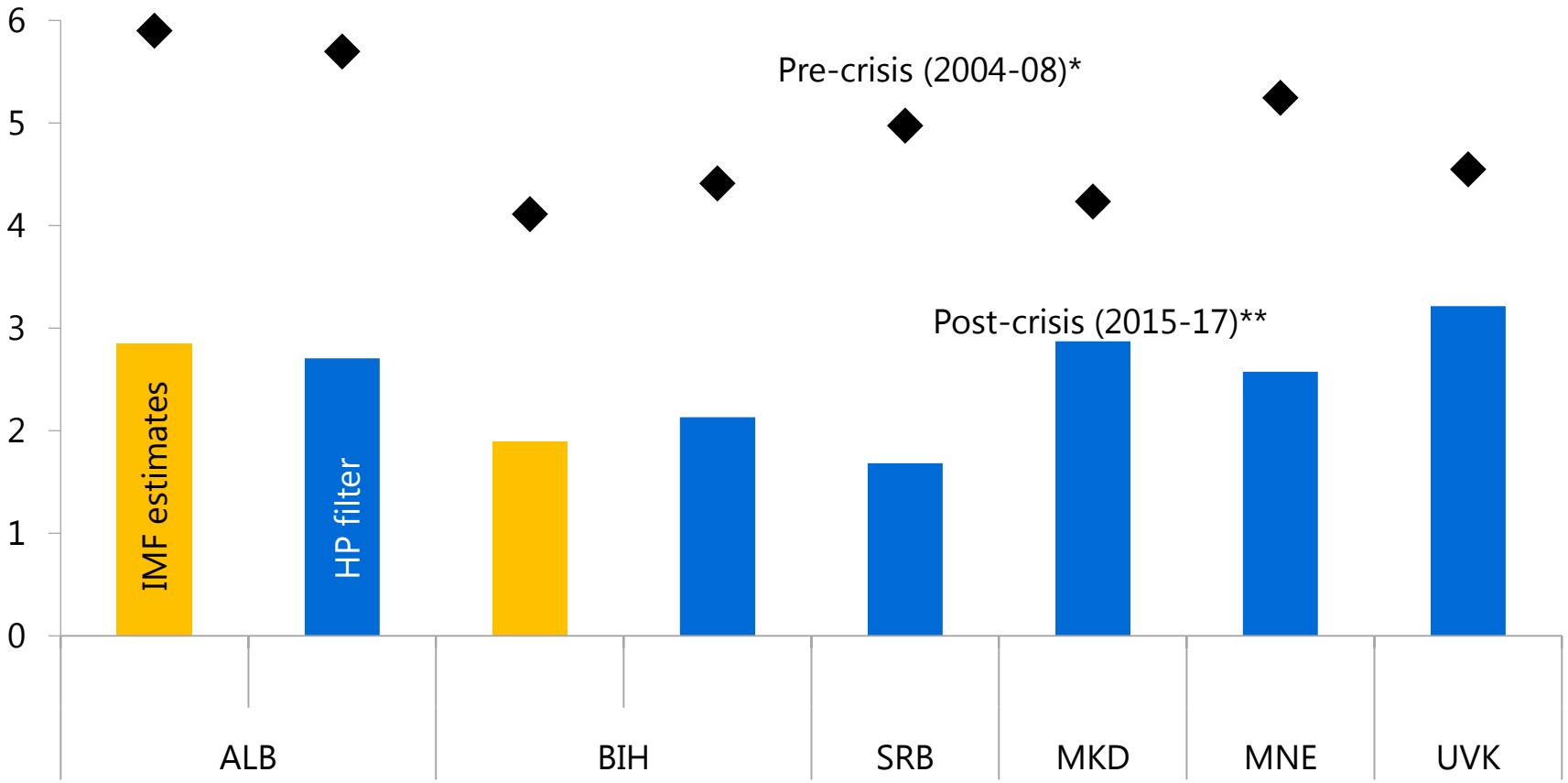


Output growth is lower than pre-crisis, but above potential

- That implies that potential output growth is even lower
- It implies that potential output growth is far below pre-crisis levels

Why has potential output growth slowed?

Average Trend Growth According to Various Estimates
(Percent)



*For MNE and UVK – 2005-08
**For ALB IMF data for 2015-16

And why has employment growth picked up?

Employment Growth
(Percent, 5 year moving average)

Preview of answers

- Why has potential GDP growth slowed?
  - TFP growth has slowed
  - That means *same* investment yields less output increase
  - Lower return on investment leads to decline of investment, further reducing growth
- Why has employment growth picked up?
  - Factor price changes

WHY HAS POTENTIAL GDP GROWTH SLOWED?

From production function perspective, slowdown due to lower contributions of TFP and capital

Contributions to GDP growth
(Annual average; log change multiplied by 100)

Albania

	2004-08	2015-16	Change
Labor	0.4	3.4	3.1
Capital	3.0	1.9	-1.1
TFP	2.5	-2.6	-5.1
GDP	5.9	2.8	-3.1

Bosnia and Herzegovina

	2004-08	2015-16	Change
Labor	-0.4	0.4	0.8
Capital	1.2	0.3	-0.9
TFP	4.5	1.8	-2.7
GDP	5.3	2.5	-2.8

Serbia and Montenegro

	2004-08	2015-16	Change
Labor	-0.1	1.9	2.0
Capital	1.4	-0.1	-1.5
TFP	4.7	0.1	-4.6
GDP	6.0	1.9	-4.1

Macedonia

	2004-08	2015-16	Change
Labor	1.2	1.1	-0.2
Capital	1.6	2.0	0.4
TFP	2.3	0.0	-2.3
GDP	5.2	3.1	-2.1

Note: Data for 2017 not available.

To understand this, let's look at Solow-Swan growth model

- In Solow-Swan growth model, long-term growth depends on n+g
  - n=growth of working age population
  - g=growth of labor augmenting technological progress (which is equal to TFP growth/labor share)

- It does not depend on investment!

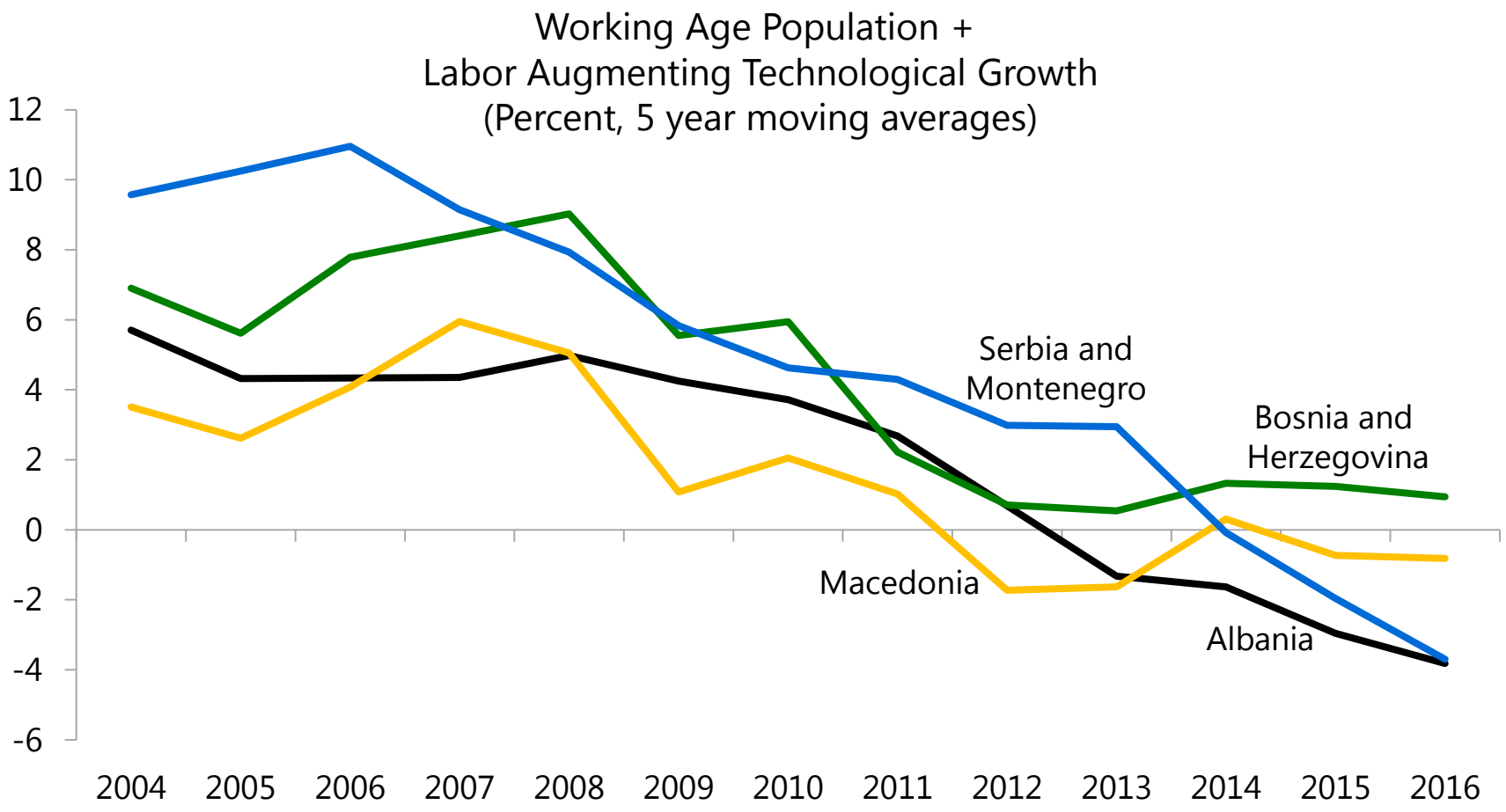
According to Solow-Swan, in long term, GDP growth does not depend on investment rate

- Higher investment rate without increase in n+g will initially lead to higher GDP growth rate
- But as capital-output ratio rises, growth rate falls back to old level
- (Of course investment rate does matter for income *levels)*
- (Government investment may boost TFP and be better for growth than government consumption)

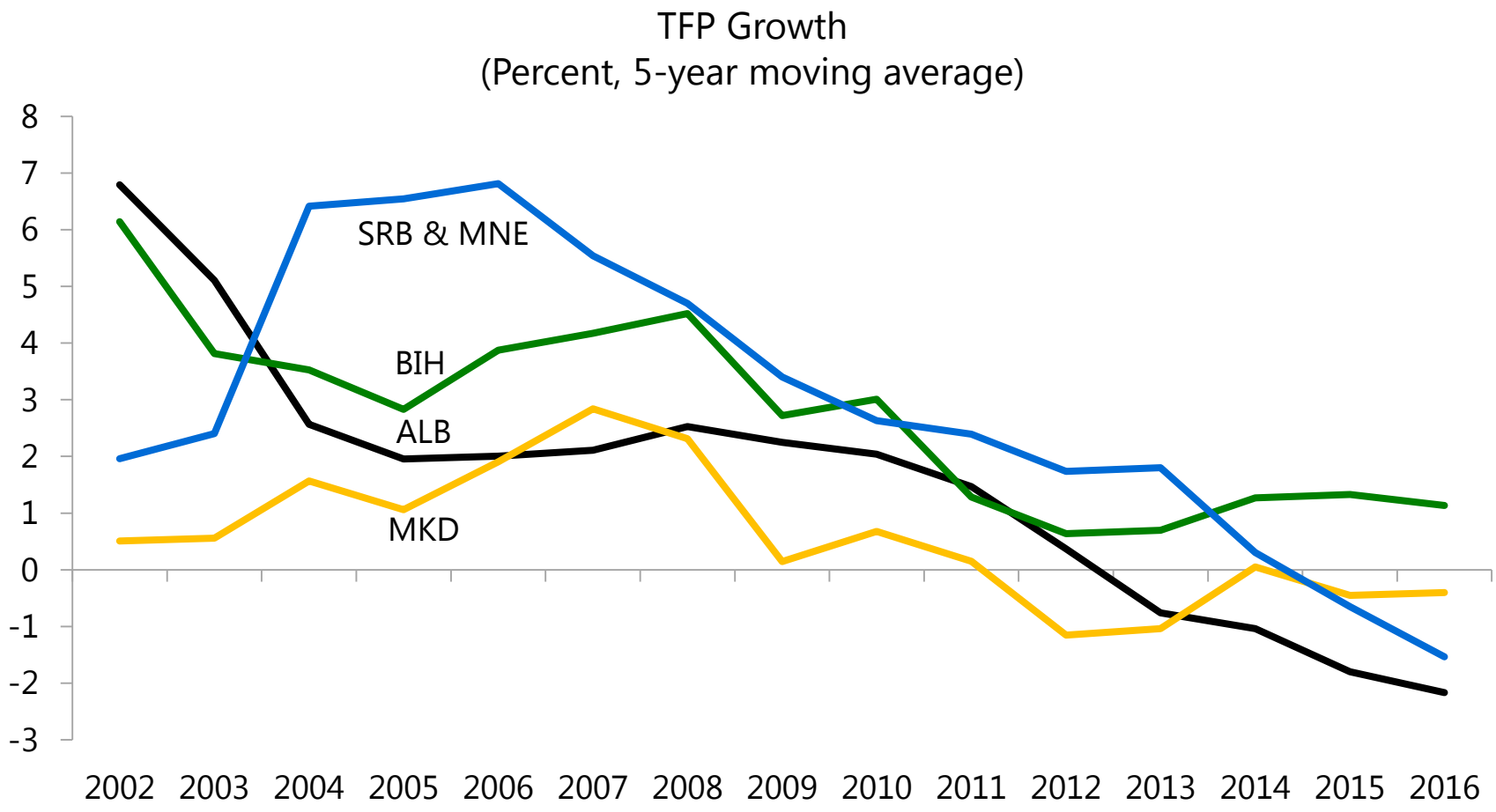
What happens if *n+g* slows down?

- Lower GDP growth
- If investment rate unchanged, capital-output ratio will rise and return on capital will drop
- Investment will likely fall in response to drop in returns
- This will further reduce GDP growth (in the short term)
- We would expect both lower growth and lower investment

n+g has slowed down



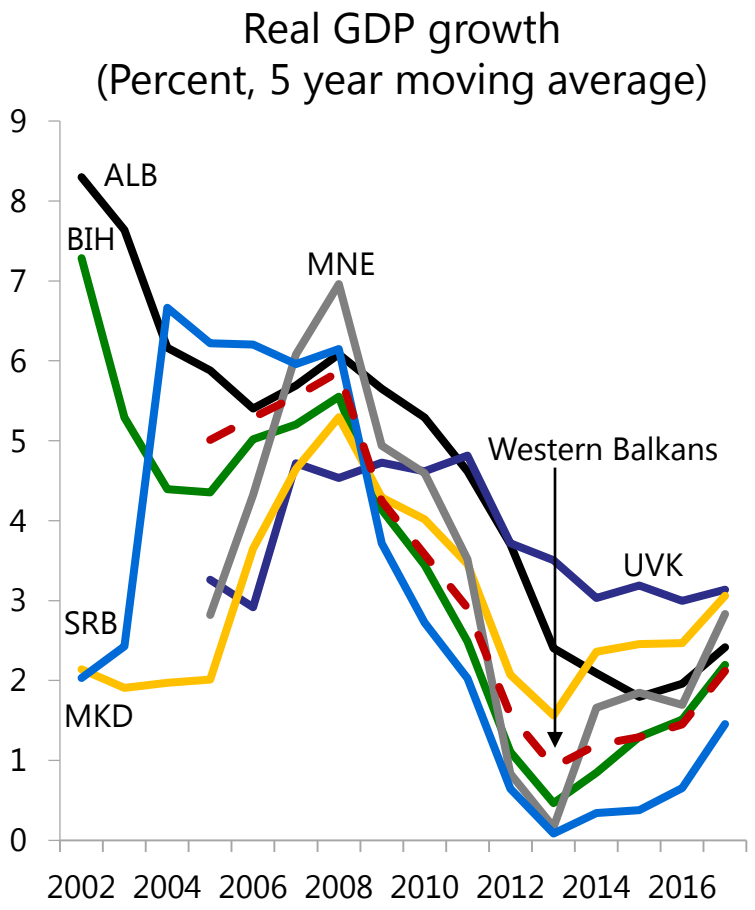
As TFP growth has slowed

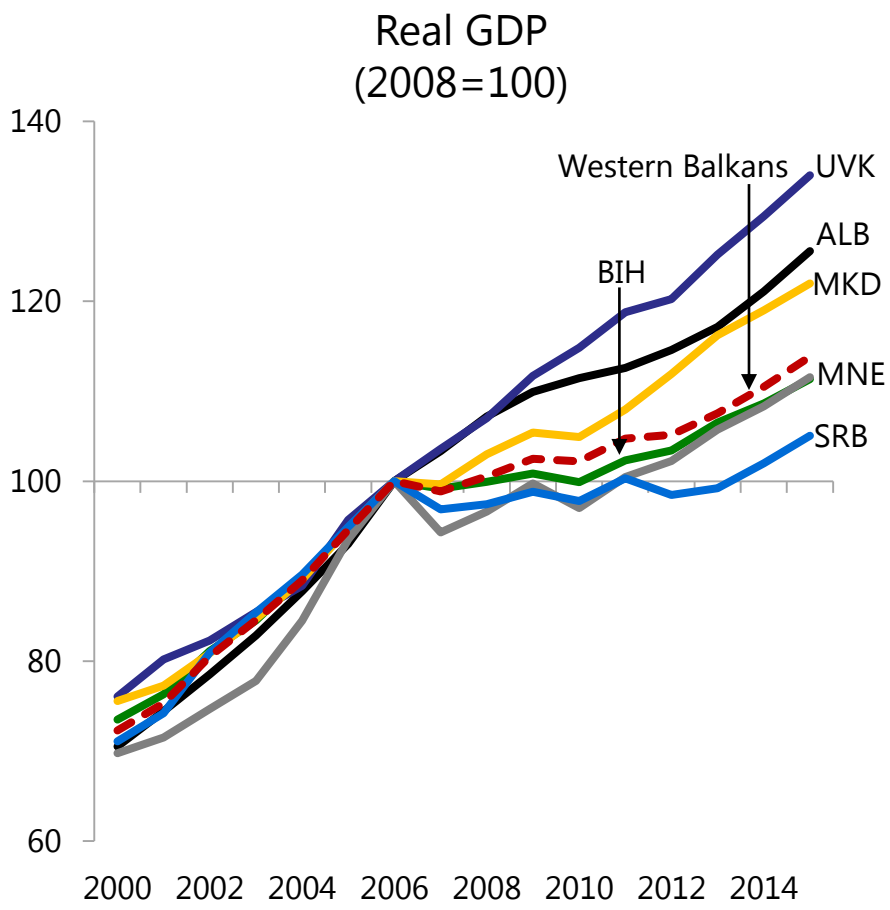


And working age population growth has come down

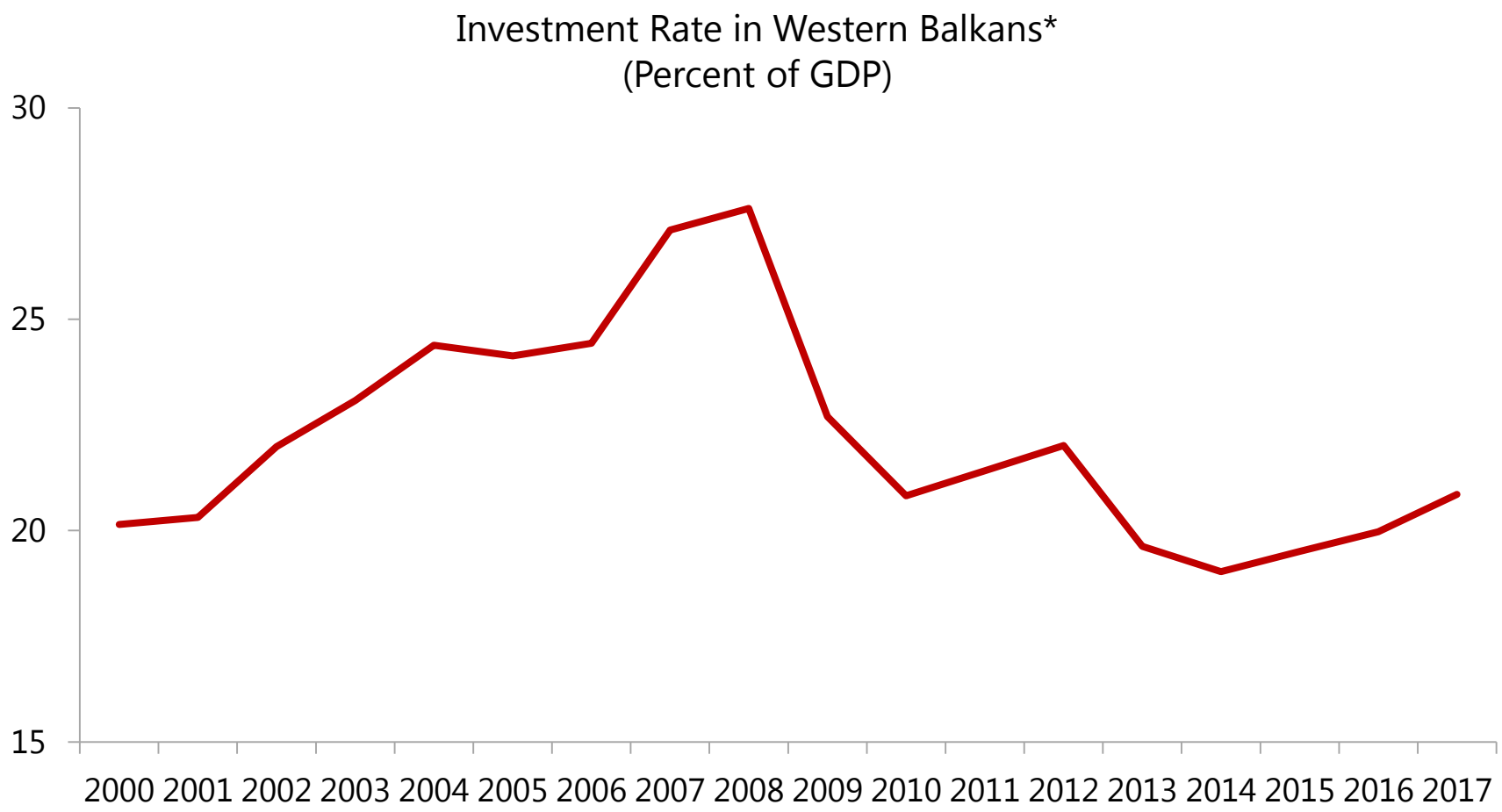
Working Age Population Growth
(Population ages 15-64 years, 5 year moving average)

Outcomes in line with model: GDP growth has declined





…and investment rate has fallen



*Excluding Macedonia

Fall in TFP not confined to Western Balkans, but global problem

TFP growth
(Percent, 5 year moving average)

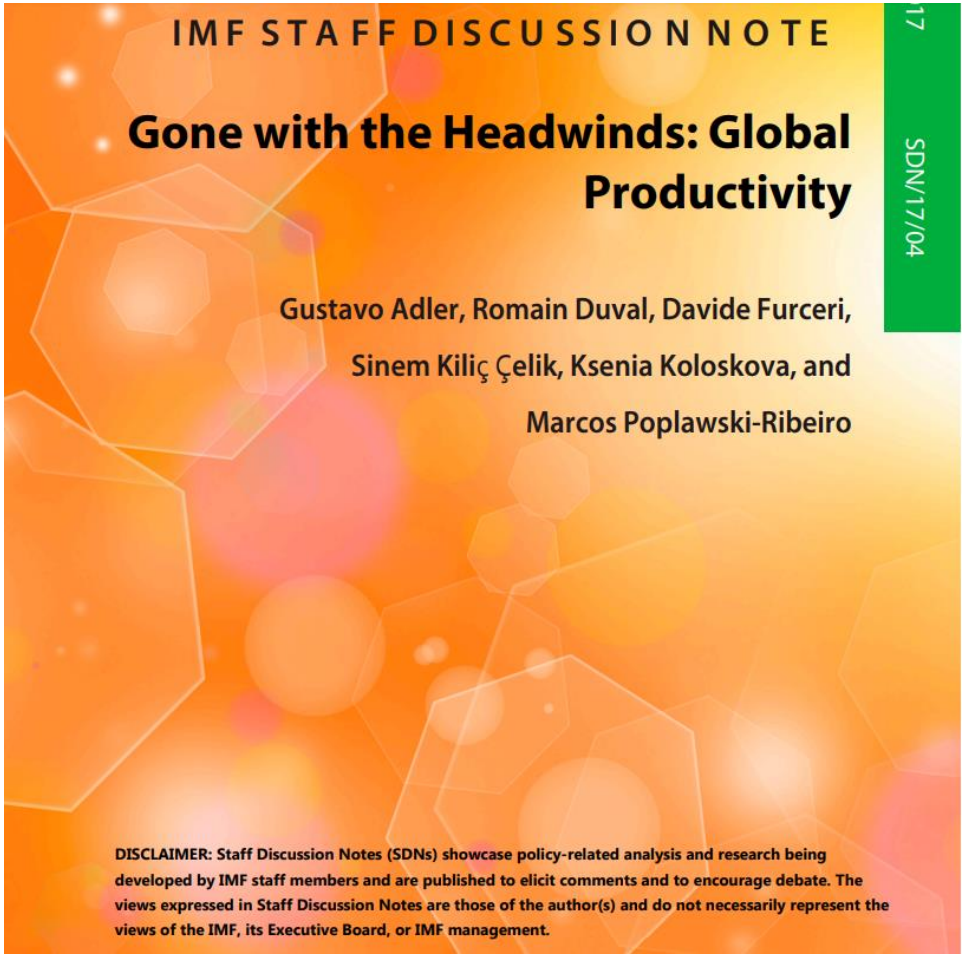
1.5
1.0
0.5
0.0
-0.5
-1.0

USA

EU15

2000 2002 2004 2006 2008 2010 2012 2014 2016

Why has global TFP growth slowed?



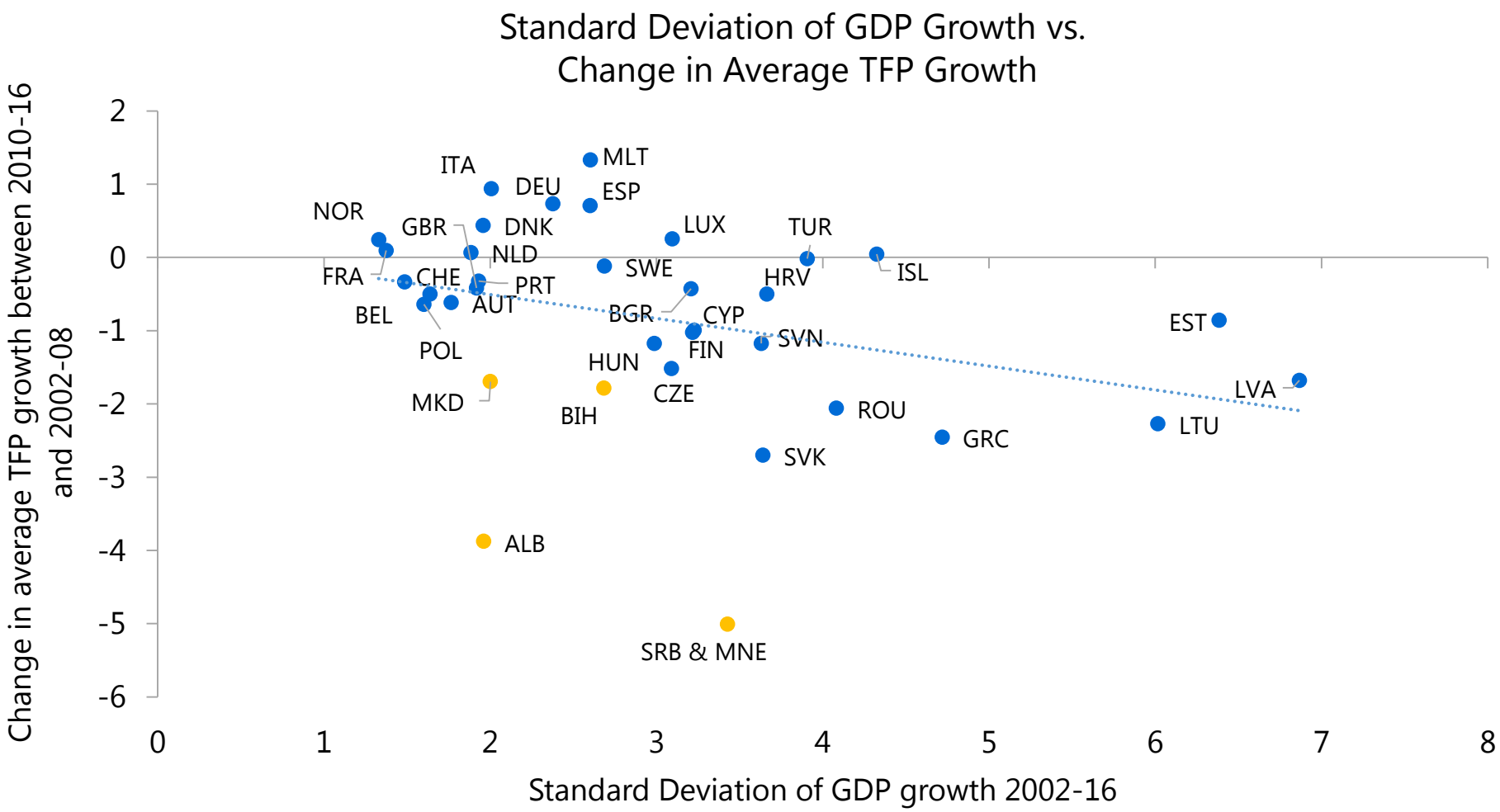
Several interrelated factors have played a role

- Measurement issues may have played a role, but most of TFP slowdown seems genuine
- Weak corporate balance sheets, combined with tight credit conditions, have undermined TFP growth, partly by constraining investment in intangible assets in distressed firms.
- An adverse feedback loop of weak aggregate demand, investment, and capital-embodied technological change seems to have afflicted the advanced economies.
- Elevated economic and policy uncertainty may have further weakened TFP growth, partly by tilting investment away from higher-risk, higher-return projects.

Factors behind TFP slowdown specific to CESEE

- End of initial gains of privatization and market liberalization
  - Privatizations before the crisis provided large TFP gains
  - Market liberalization allowed for sectoral reallocations raising TFP
- After the gains from the reforms were exhausted, TFP slowed down

Slowdown of TFP growth in crisis-affected countries has been more severe



WHY HAS EMPLOYMENT GROWTH PICKED UP?

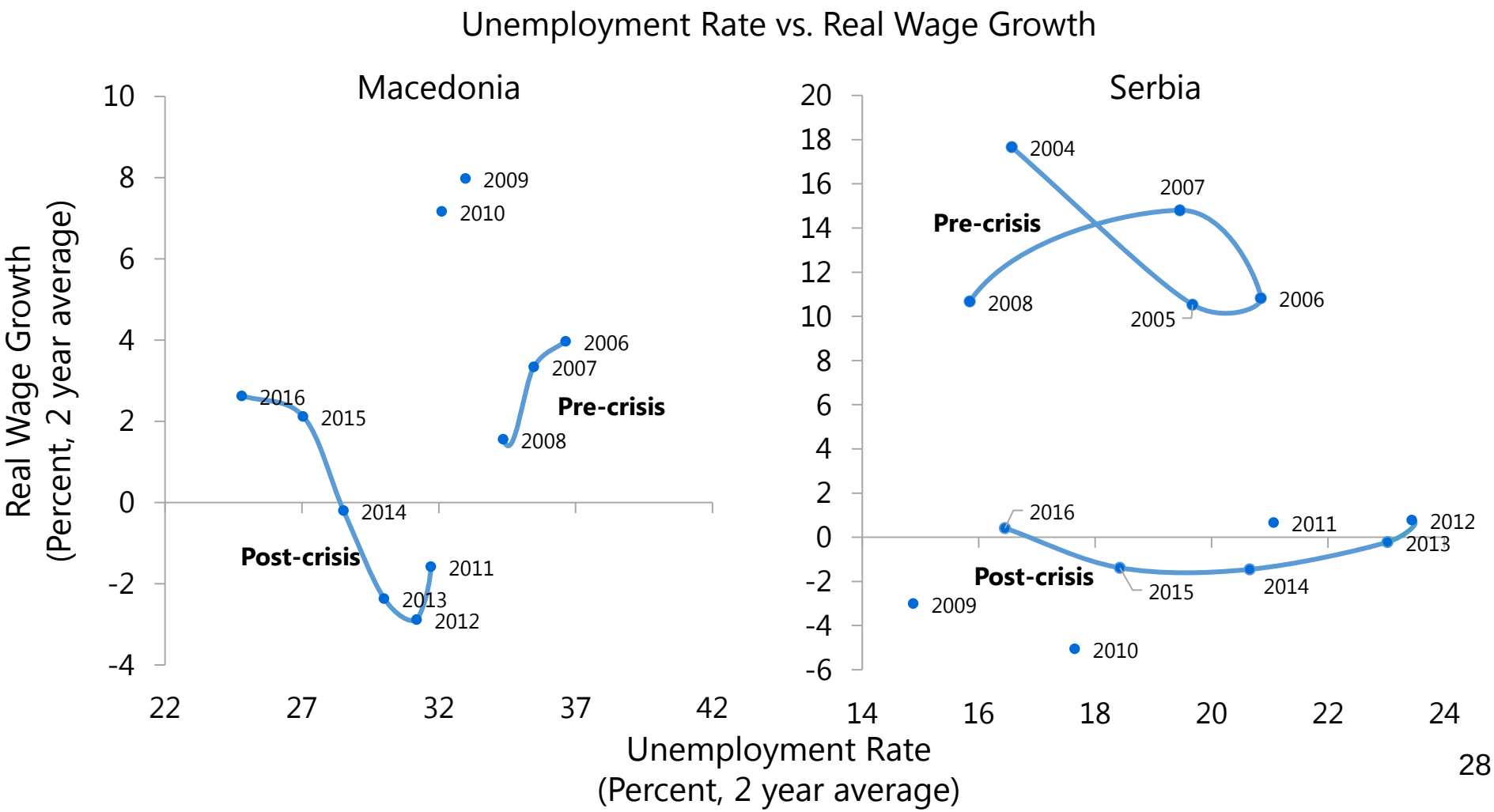
Why has employment growth picked up?

- Shift in factor prices:
- Before crisis
  - Capital easy to get (abundant financing; banks eager to lend)
  - Real wages growing rapidly
- Now
  - Capital more expensive (financing less abundant; banks less willing to lend)
  - Real wages growing more slowly

Real wage growth is more subdued than before crisis

Real Wage Growth
(Deflated by GDP deflator, 2 years moving average, percent)

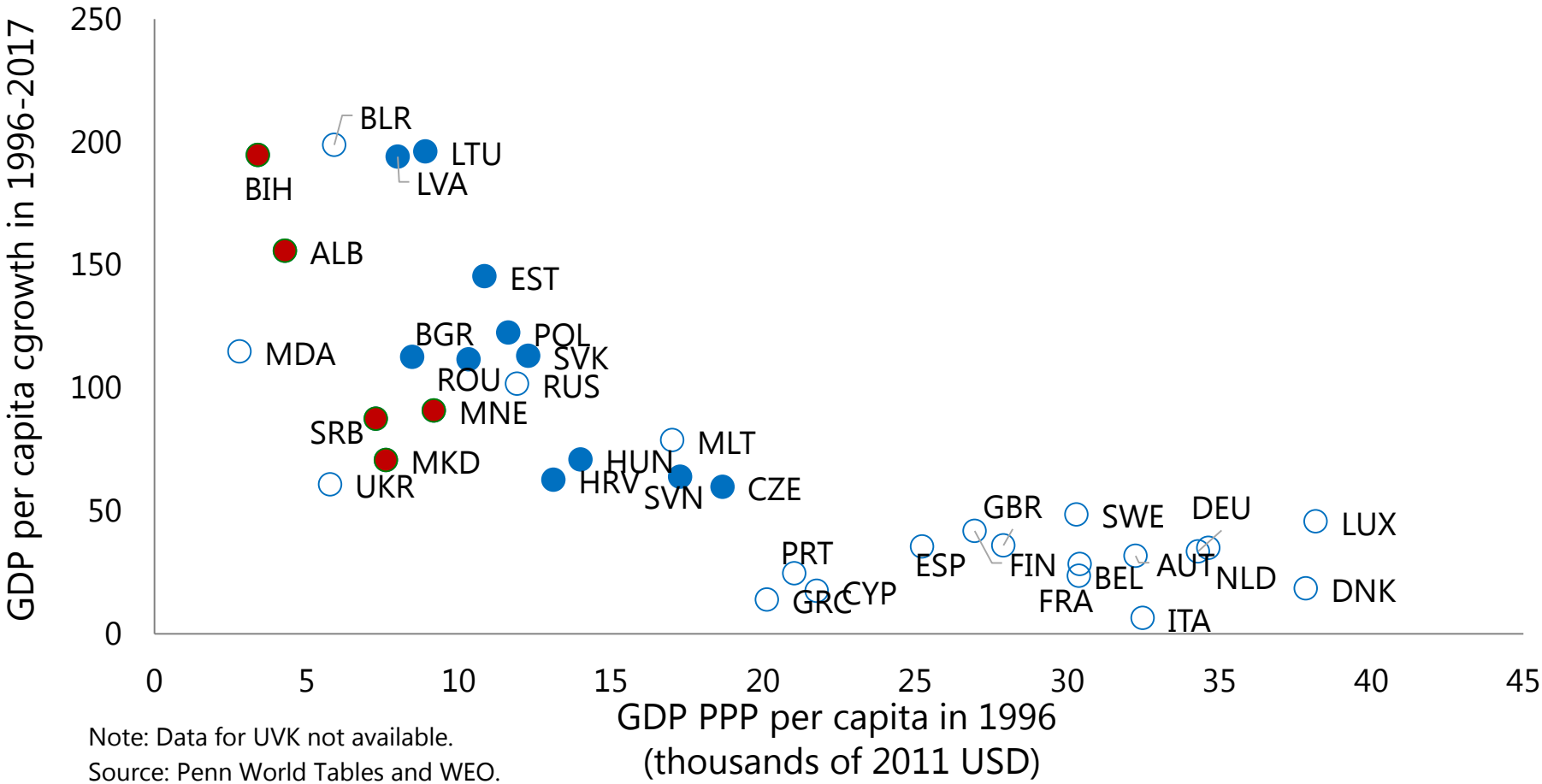
Unemployment-real wage growth trade-off much better than before crisis



POTENTIAL OUTPUT GROWTH AND THE FUTURE OF CONVERGENCE

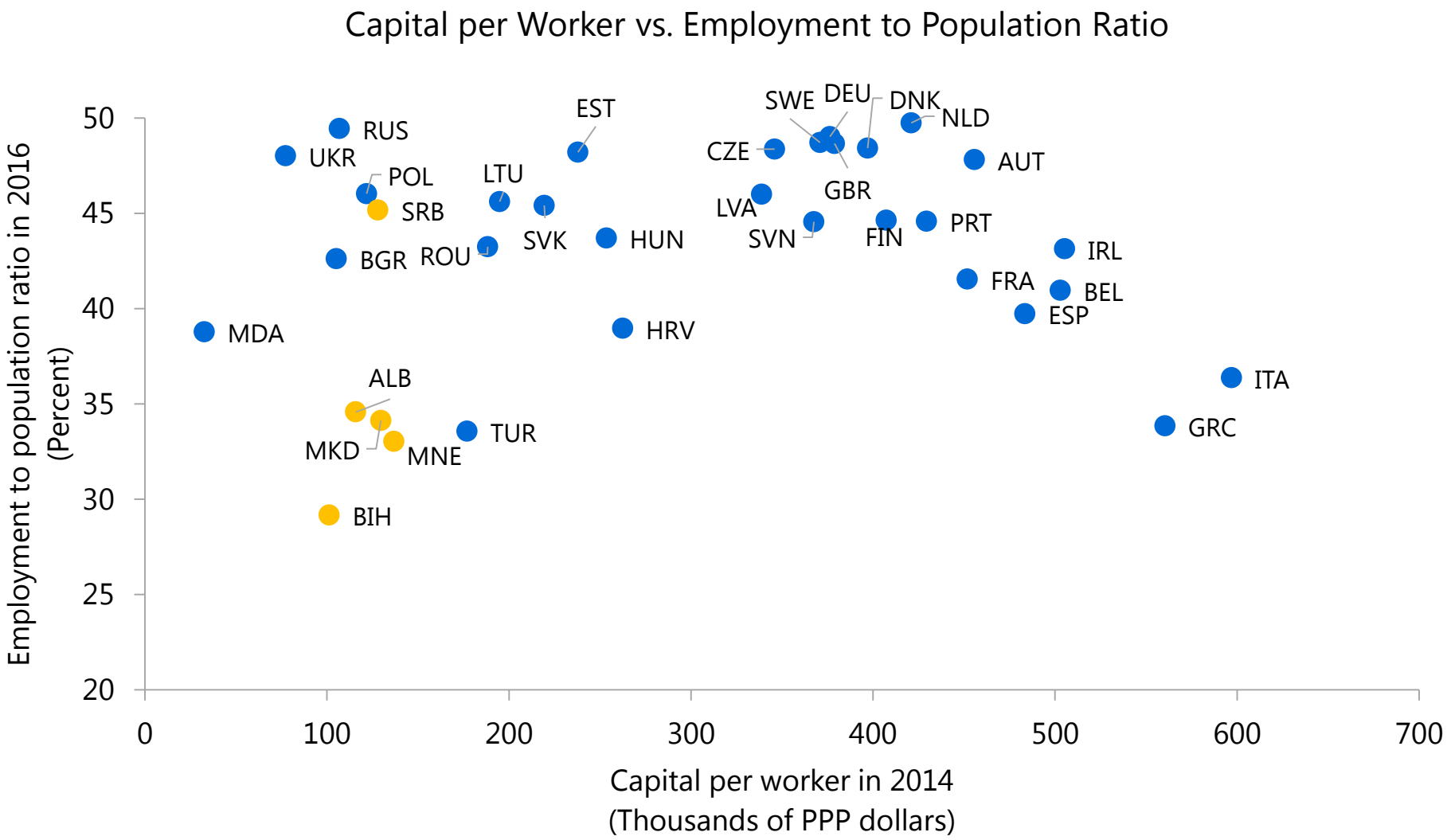
Since the mid-1990s Western Balkans have converged (although slower than NMS) How can we ensure it continues?

GDP PPP per capita in 1996 vs. its change in 1996-2017



Note: Data for UVK not available.
Source: Penn World Tables and WEO.

Western Balkans are poorer because low employment and less capital per worker

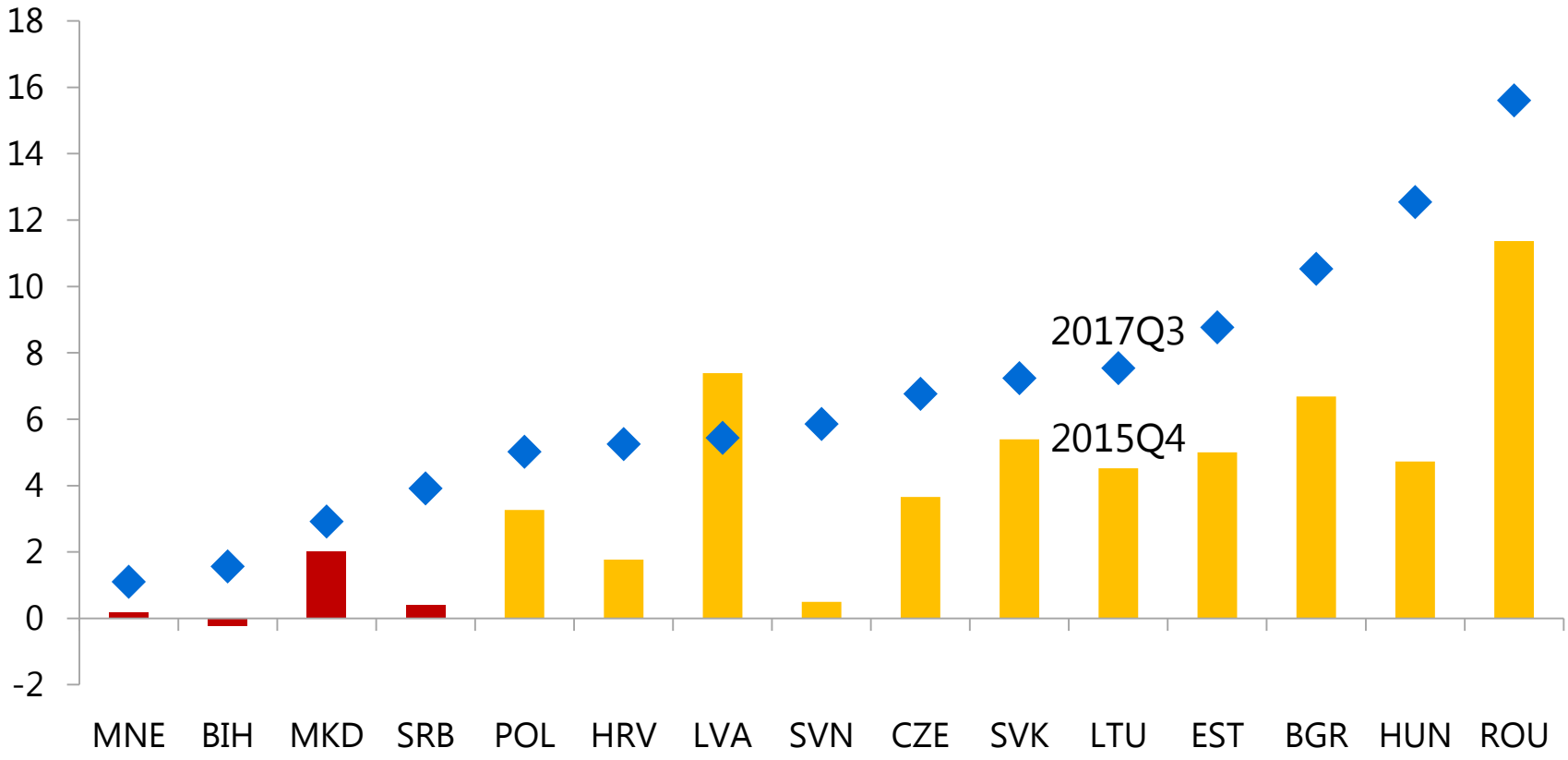


Current increase in employment rate very welcome. How long can it continue?

- Difficult question
- In many countries unemployment level still high
- Pre-crisis strong wage growth at elevated unemployment levels.
- So far, wage growth has remained modest
- But we have seen some pick-up

Will wage growth in Western Balkans accelerate further?

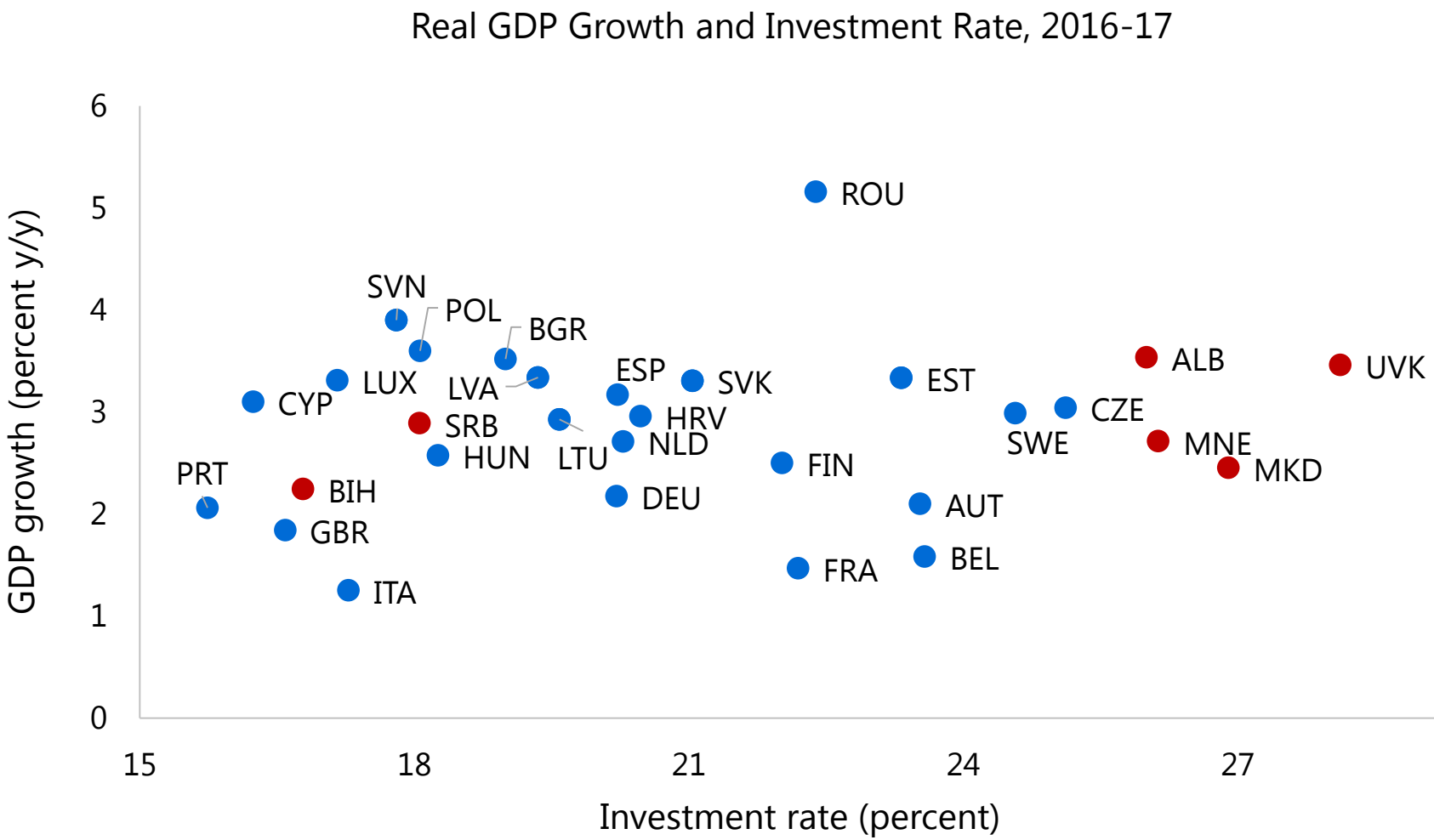
Nominal Wage Growth
(Percent, Y/Y)



Continued convergence will necessitate faster TFP growth

- Faster TFP growth will not only raise GDP growth directly
- It also increases the return on investment
- More investment alone is not the answer

Investment in Western Balkans generates relatively little output growth



What can be done to boost TFP growth

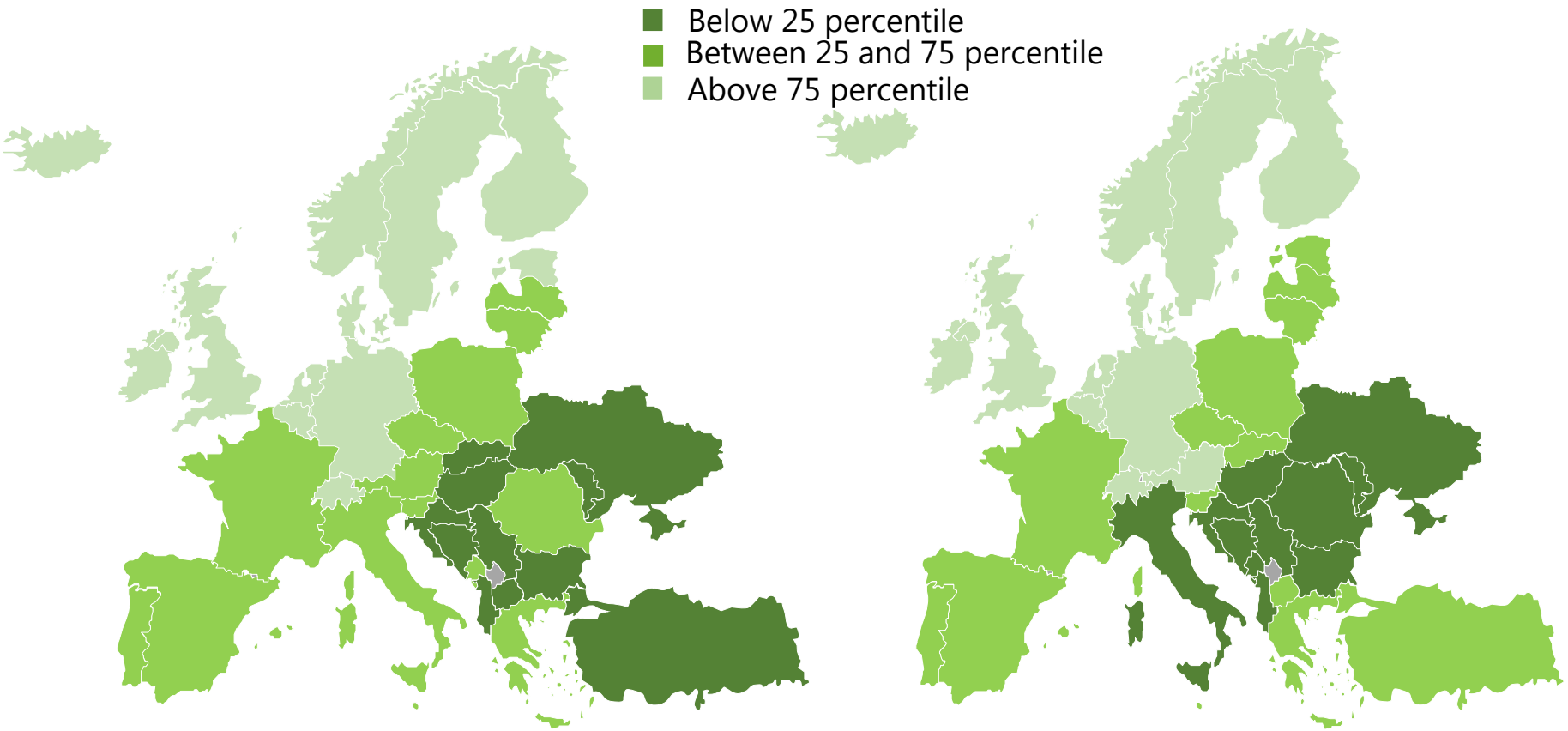
Address several problems

- Limited access to financial services (e.g. for SMEs)
- Infrastructural gaps
- Inefficient legal systems and other government services

Improve institutions, especially judiciary

Judicial Independence, 2015

Impartial Courts, 2015



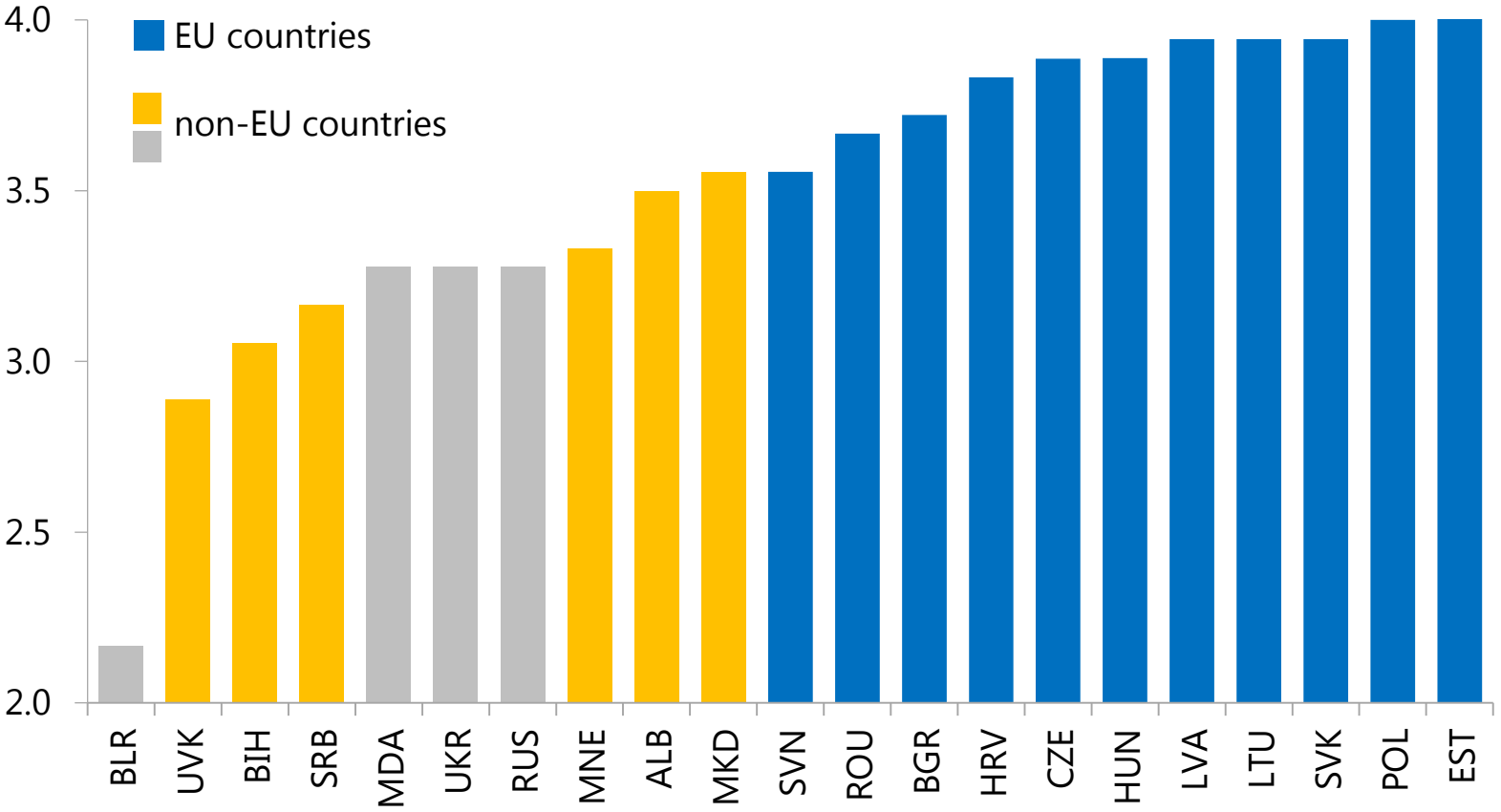
Source: World Economic Forum. Note: Worldwide distribution excluding LICs

Institutional reforms provide large efficiency gains

- Better institutions hold the promise of retaining emigration of skilled workers
- Effective protection of property rights provides stronger incentives for investment
- Institutions affect innovation and productivity through enhanced trust, cooperation, commitment, and contract enforcement

EU accession process should lead to improved institutions / completion of transition

Average of Six EBRD Transition Indicators in 2014



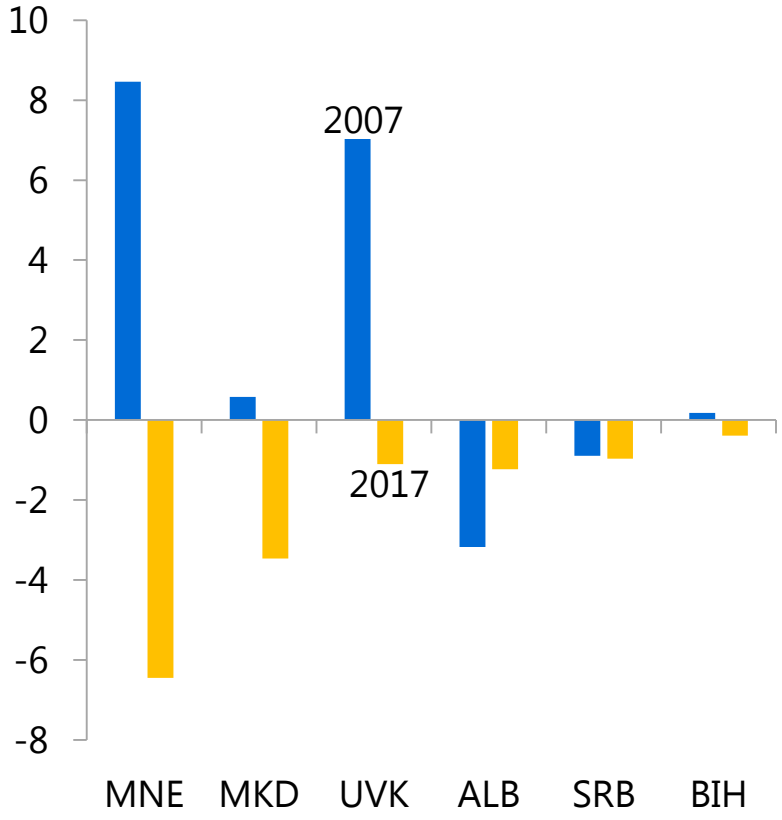
Note: 2007 for Czech Republic.

Conclusion

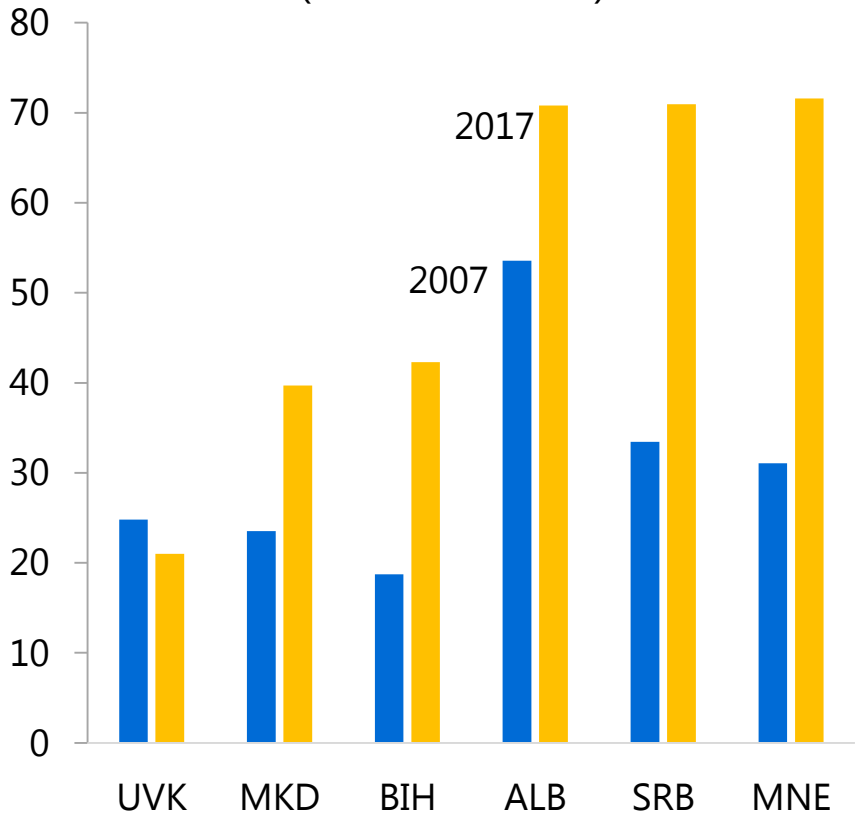
- GDP growth in Western Balkans is much lower than before the crisis
- Potential output growth has fallen
- Potential output growth needs to be boosted.
  - Higher TFP needed→ Implications for structural policies
- Output growth is partly cyclical
  - Time to restore fiscal buffers

Debt ratios are much higher than before crisis

General Government Balance
(Percent of GDP)



General Government Debt
(Percent of GDP)



Thank you

Supplemental slides

Solow-Swan rehash

Output depends on the capital stock, employment, and labor-augmenting technological progress:

$$Y(t) = K(t)^{\propto}\big(\mathrm{A(t)L(t)}\big)^{1-\propto}$$

The labor force grows at rate n:

$$L(t) = L(0)e^{nt}$$

The rate of technological progress is g:

$$A(t) = A(0)e^{gt}$$

The capital stock is determined by investment minus depreciation:

$$\dot{K}\ (t) = sY(t) - \delta K(t)$$

Long-run equilibrium

Long-Run Equilibrium Path

$$\frac{dY}{Y} = n + g$$

The growth rate of capital is:

$$\frac{dK}{K} = n + g$$

The capital output ratio is:

$$\frac{K}{Y} = \frac{s}{n + g + \delta}$$

The return on capital is:

$$r = \frac{\propto Y}{K} = \frac{\propto (n + g + \delta)}{s}$$

Labor augmenting technological progress can be deduced from TFP growth

In the Solow-Swan framework we have:

$$Y(t) = K(t)^{\propto}(e^{gt}L(t))^{1-\propto}$$

Taking logs and differentiating we get:

$$\frac{dY}{Y} = \propto \frac{dK}{K} + (1-\propto)\frac{dL}{L} + (1-\propto)g$$

Total factor productivity growth is typically derived as:

$$g_{TFP} = \frac{dY}{Y} - \propto \frac{dK}{K} - (1-\propto)\frac{dL}{L}$$

It follows that:

$$g = \frac{g_{TFP}}{1-\propto}$$