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ASIAN DEVELOPMENT OUTLOOK 2016

ASIA'S POTENTIAL GROWTH



Asian Development Outlook 2016: Asia's Potential Growth

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Presentation at ...

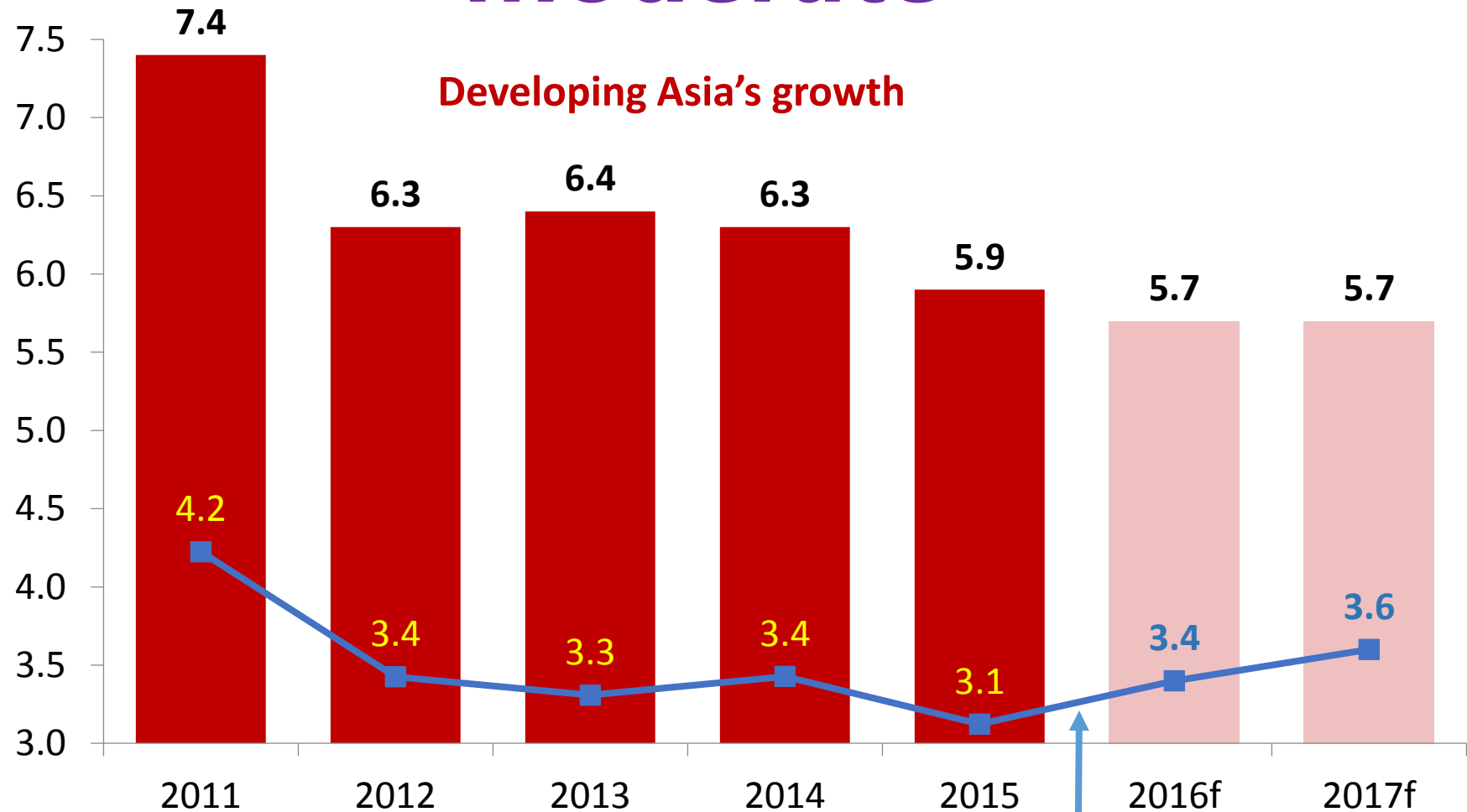


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Key messages

- Growth in developing Asia is to soften slightly to 5.7% in 2016 and 2017, from 5.9% last year
 - PRC growth is to moderate further to 6.5% in 2016 and 6.3% in 2017 as it continues to shift growth model
 - India's growth is to dip slightly to 7.4% in 2016 before picking up to 7.8% in 2017
- Inflation of consumer prices remains subdued, but many economies face possibly harmful producer price deflation
- Structural reforms are critical to boosting developing Asia's potential growth

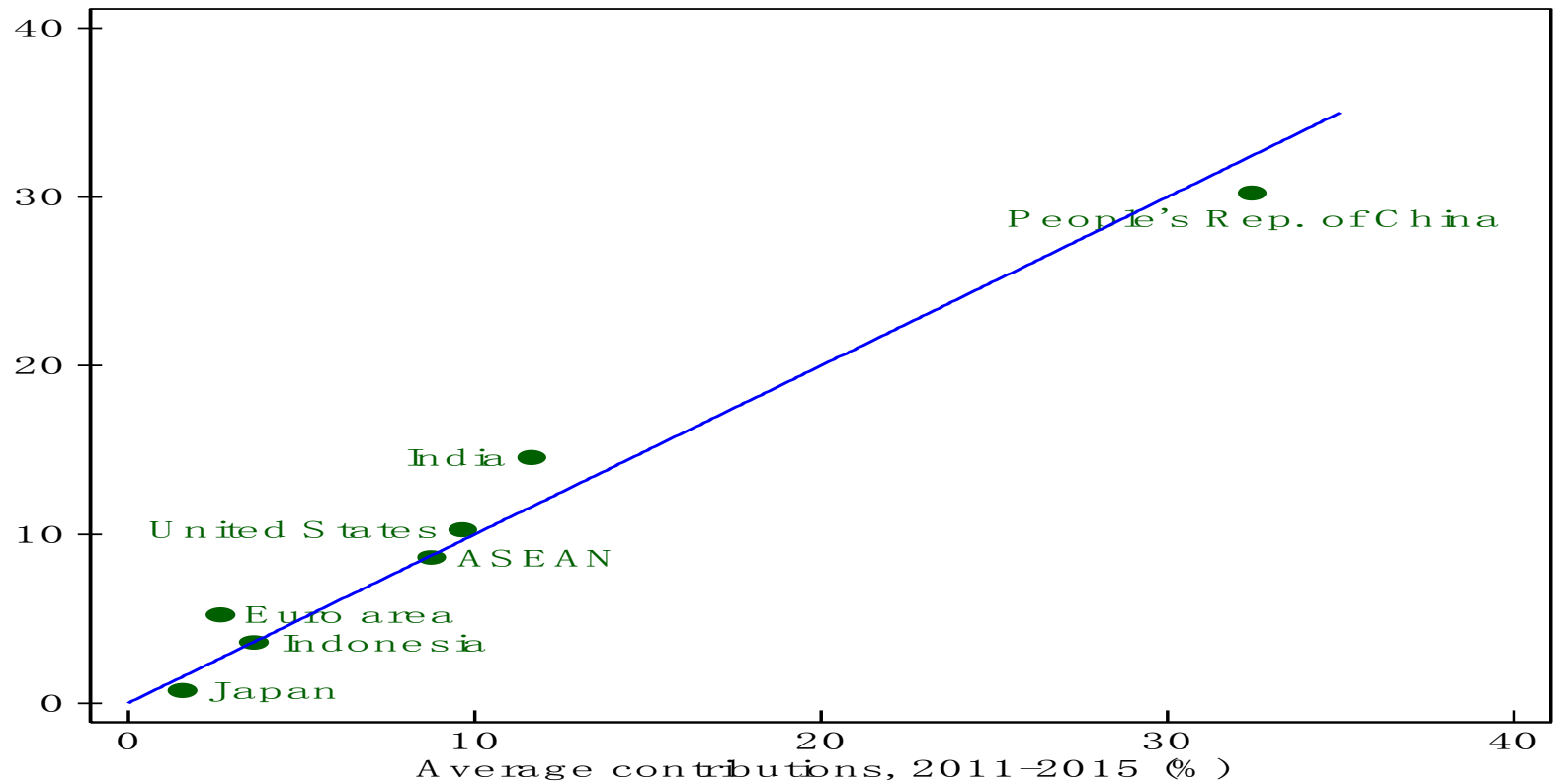
Asia's growth continues to moderate



f: forecast

Developing Asia still accounts for about 60% of global growth in PPP terms...

Contributions to world growth (%), 2016 vs. 2011–2015



Note: Uses PPP-adjusted weights

Uneven recovery in industrial economies

GDP growth (%)	2015	2016f	2017f
Major industrial economies	1.8	1.8	1.9
United States	2.4	2.3	2.5
Euro area	1.5	1.5	1.6
Japan	0.5	0.6	0.5

f= forecast

Variations across sub-regions and economies

	2015	2016 ^f	2017 ^f		2015	2016 ^f	2017 ^f
South Asia	7.0	6.9	7.3	Central Asia	2.9	2.1	2.8
India	7.6	7.4	7.8	Azerbaijan	1.1	-1.0	1.0
Pakistan	4.2	4.5	4.8	Kazakhstan	1.0	0.7	1.0
Sri Lanka	4.8	5.3	5.8	East Asia	6.0	5.8	5.6
Southeast Asia	4.4	4.5	4.8	China, People’s Rep. of	6.9	6.5	6.3
Indonesia	4.8	5.2	5.5	Hong Kong, China	2.4	2.1	2.2
Malaysia	5.0	4.2	4.4	Korea, Rep. of	2.6	2.6	2.8
Philippines	5.8	6.0	6.1	Taipei,China	0.7	1.6	1.8
Singapore	2.0	2.0	2.2	The Pacific	7.0	3.8	3.1
Thailand	2.8	3.0	3.5	Fiji	4.0	2.7	4.5
Viet Nam	6.7	6.7	6.5	Papua New Guinea	9.9	4.3	2.4

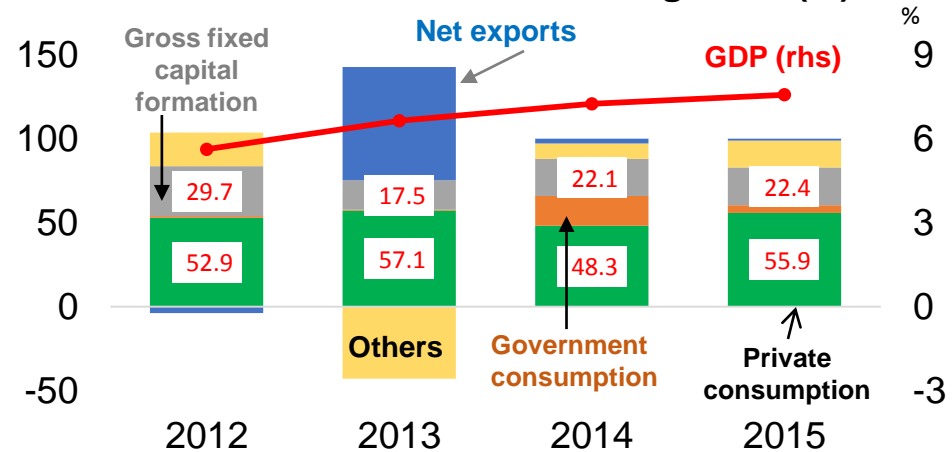
Growth outlook of Central Asian countries (%)

	2015	2016	2017
Central Asia	2.9	2.1	2.8
Armenia	3.0	2.0	2.3
Azerbaijan	1.1	-1.0	1.0
Georgia	2.8	2.5	3.5
Kazakhstan	1.0	0.7	1.0
Kyrgyz Republic	3.5	1.0	2.0
Tajikistan	6.0	3.8	4.0
Turkmenistan	6.5	6.5	7.0
Uzbekistan	8.0	6.9	7.3
Afghanistan	1.5	2.0	3.0
Pakistan	4.2	4.5	4.8

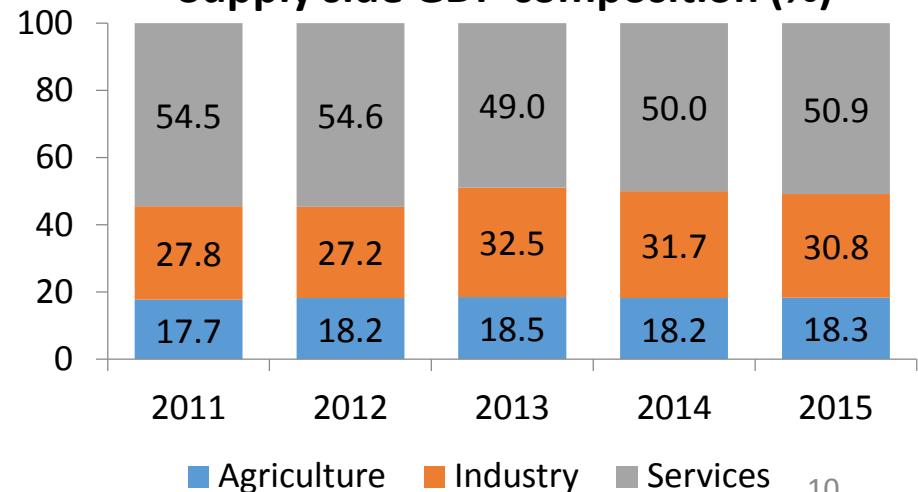
India's growth slowing slightly to 7.4% in 2016 before picking up to 7.8% in 2017

- Macroeconomic fundamentals improved;
- Efforts to repair corporate and bank balance sheets continued;
- Reforms progressed to improve business environment, attract FDI, and address infrastructure gaps;
- Manufacturing promoted through the “Make in India” campaign.

Demand-side contributions to growth (%)

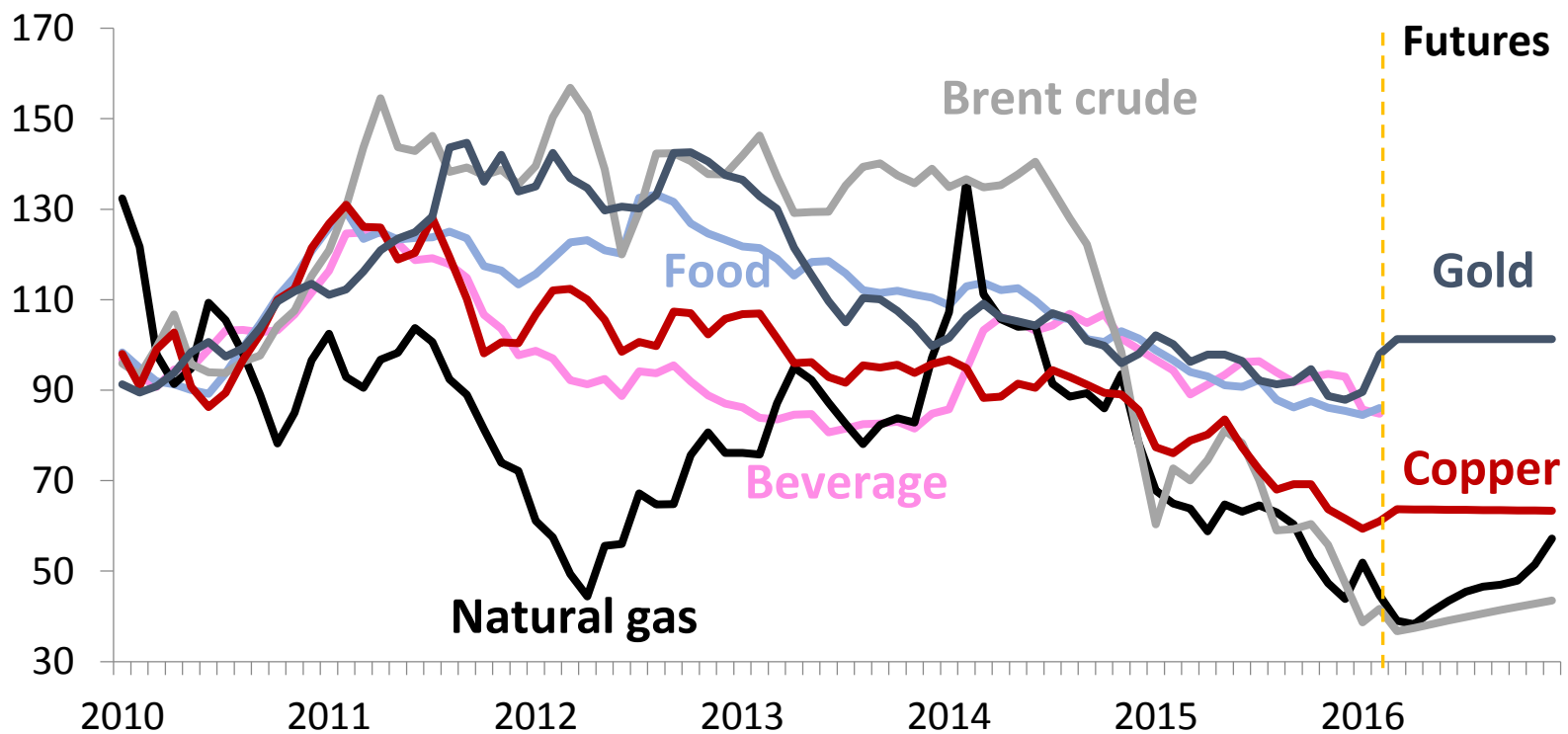


Supply side GDP composition (%)



Slow recovery in commodity prices ...

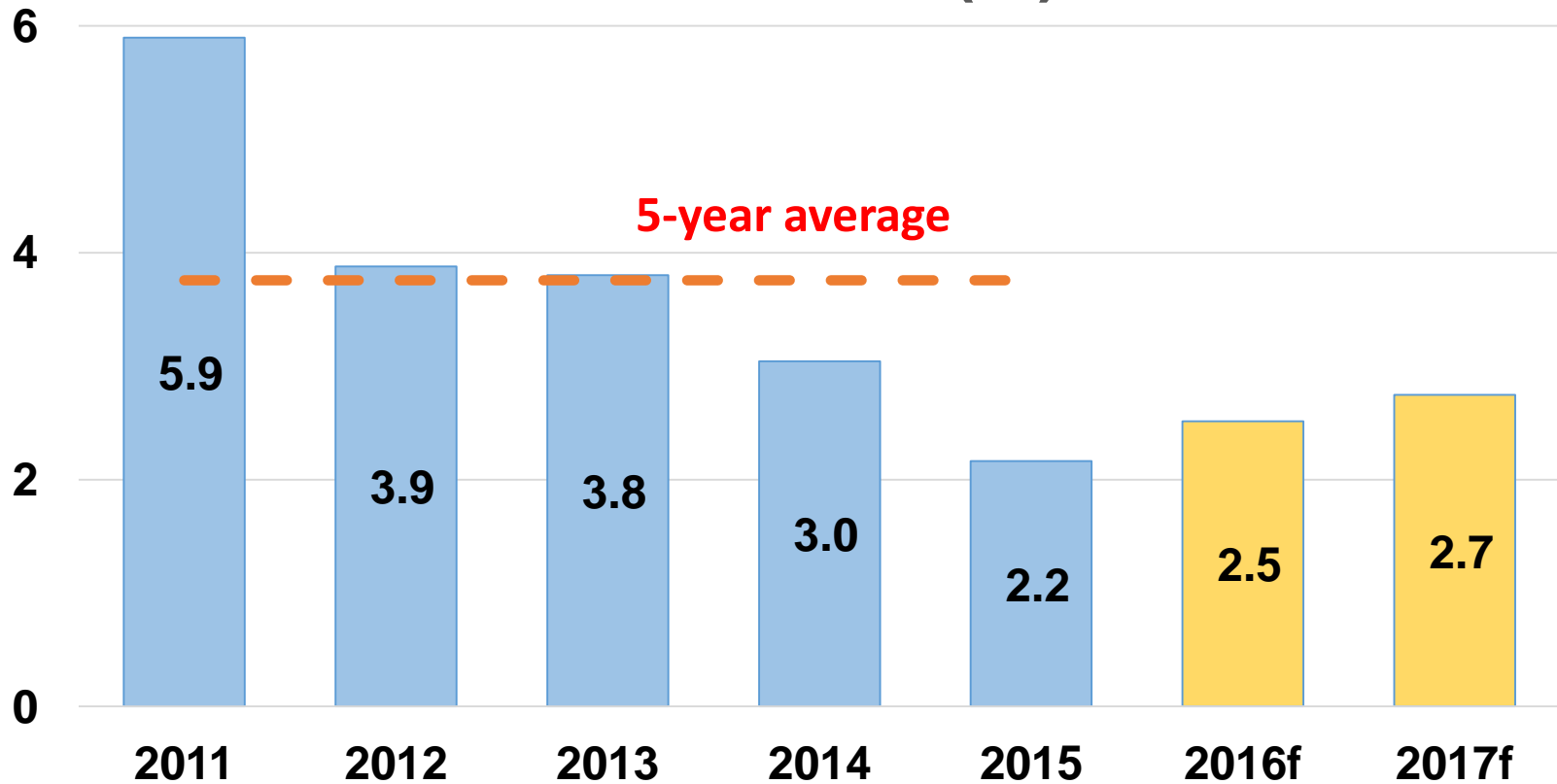
Commodity price indexes
2010=100



Sources: World Bank Pinksheets; Bloomberg

... will keep CPI inflation low

CPI Inflation (%)



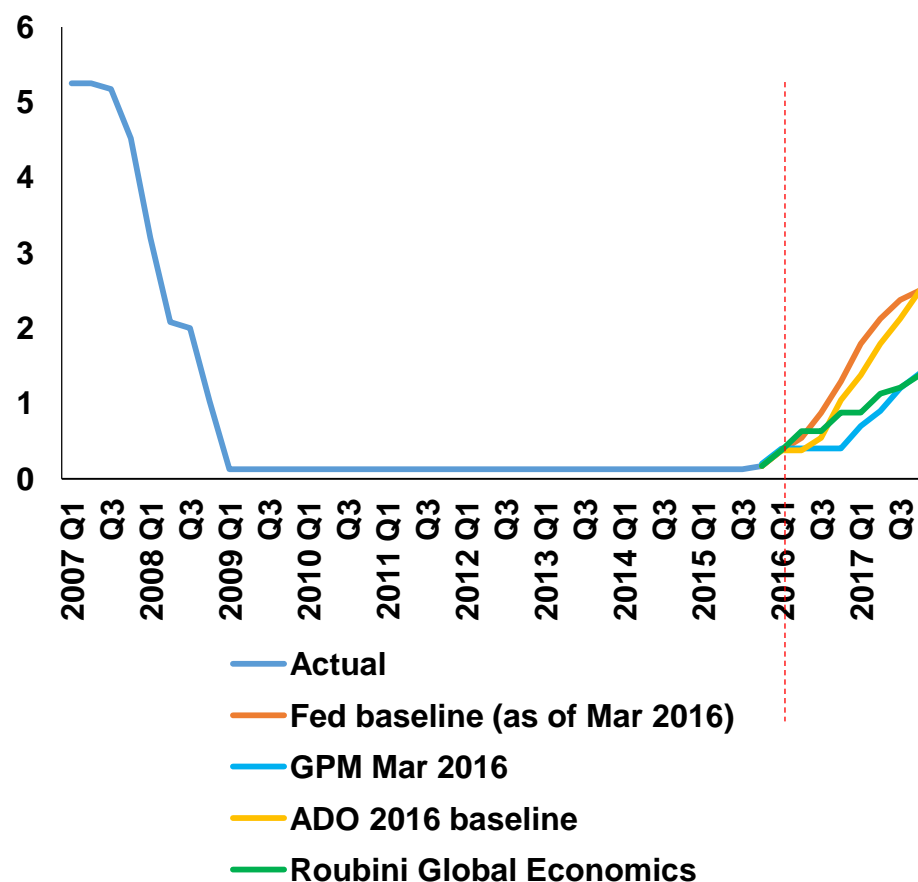
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Risks to the outlook

- Global financial market volatility
- Spillovers from PRC slowdown
- Producer price deflation

1. Uncertainty over future path of US Interest rate could increase global financial market volatility

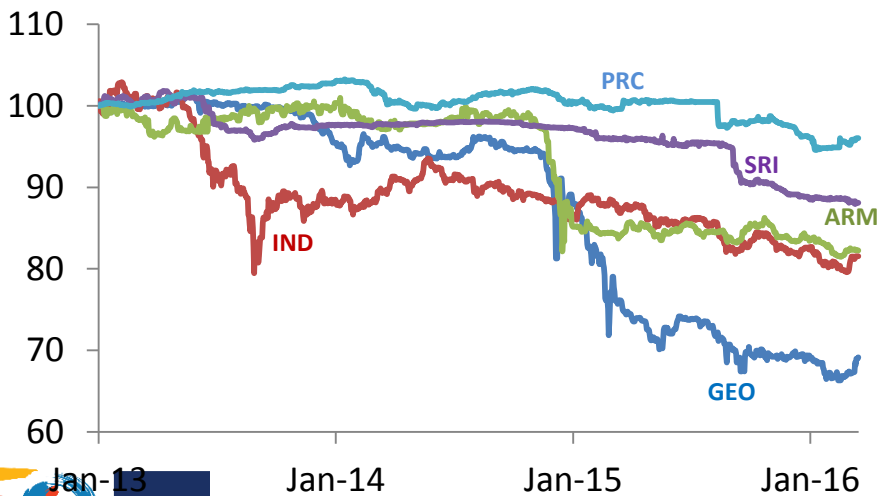
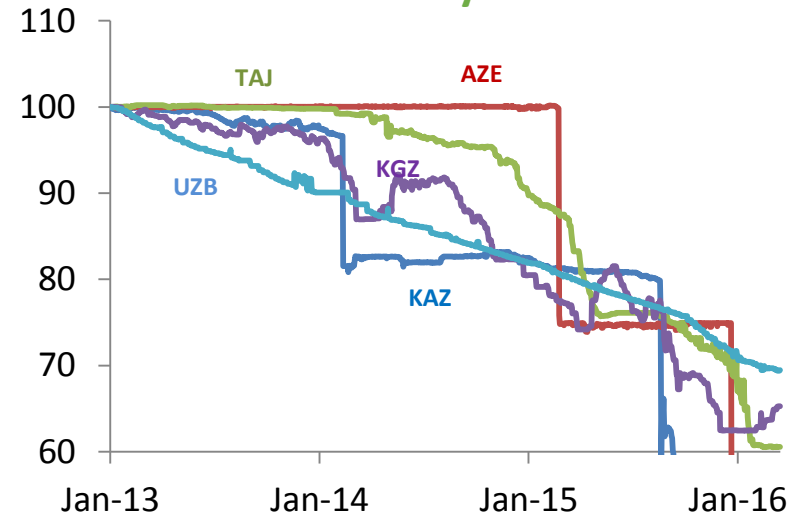
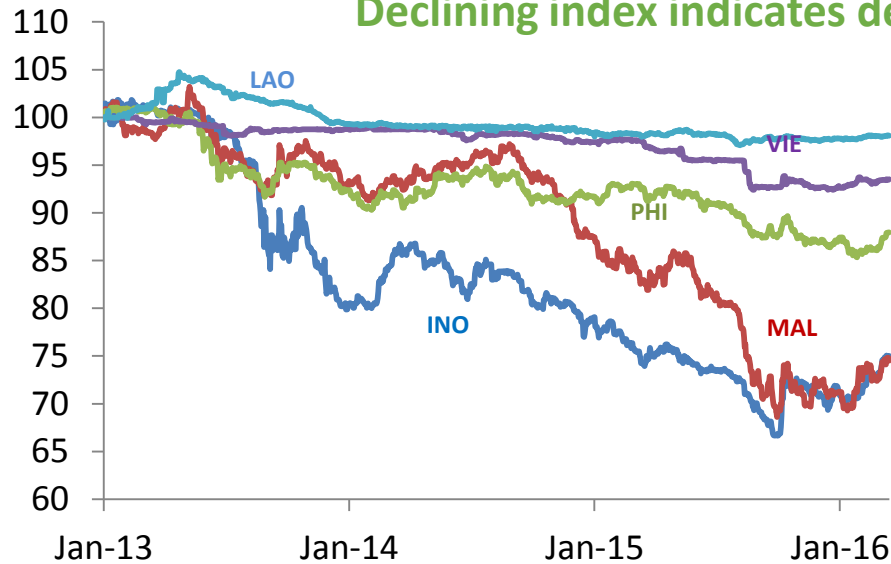
- The Federal Reserve raised interest rates in December 2015
- The Fed sees further gradual tightening going forward
- Changes to US monetary policy have implications on
 - Trade
 - Capital flows
 - Foreign debt burden



Strong dollar raises foreign debt burden

US dollar value per Asian currency, 1 Jan 2013 = 100

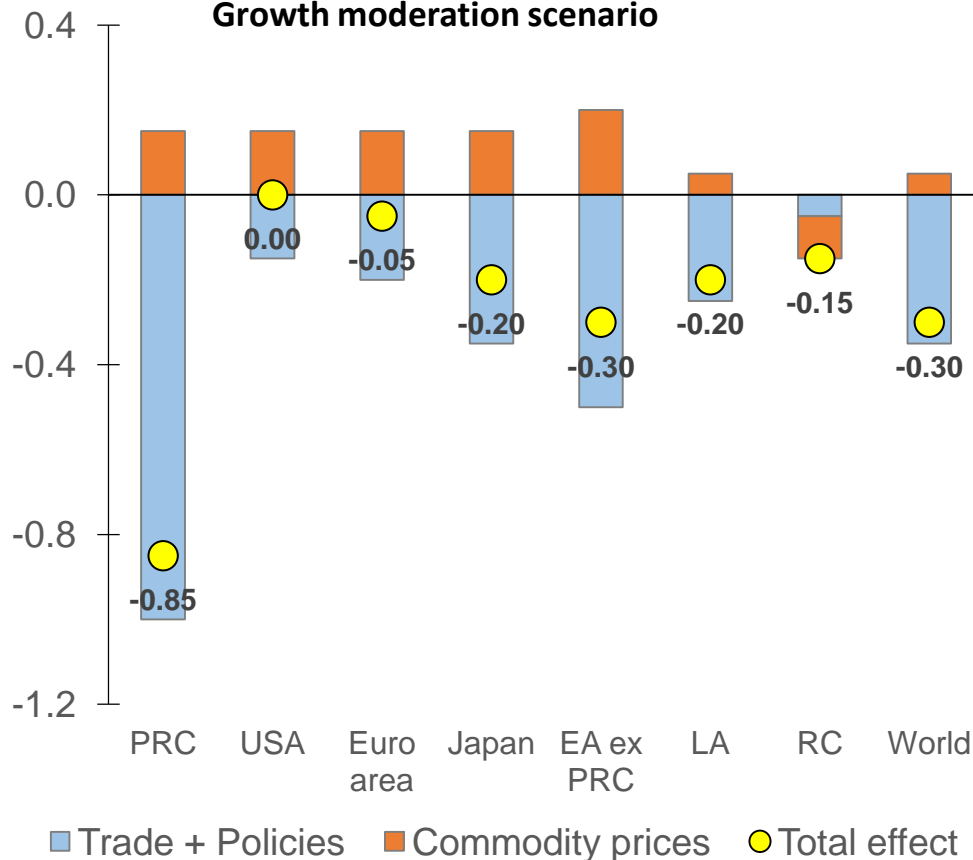
Declining index indicates depreciation of local currency



- US dollar appreciation tends to increase domestic currency value of debt, posing a threat to economies with large foreign liabilities

2. PRC's growth moderation has had global impact

Global Projection Model:
Growth moderation scenario

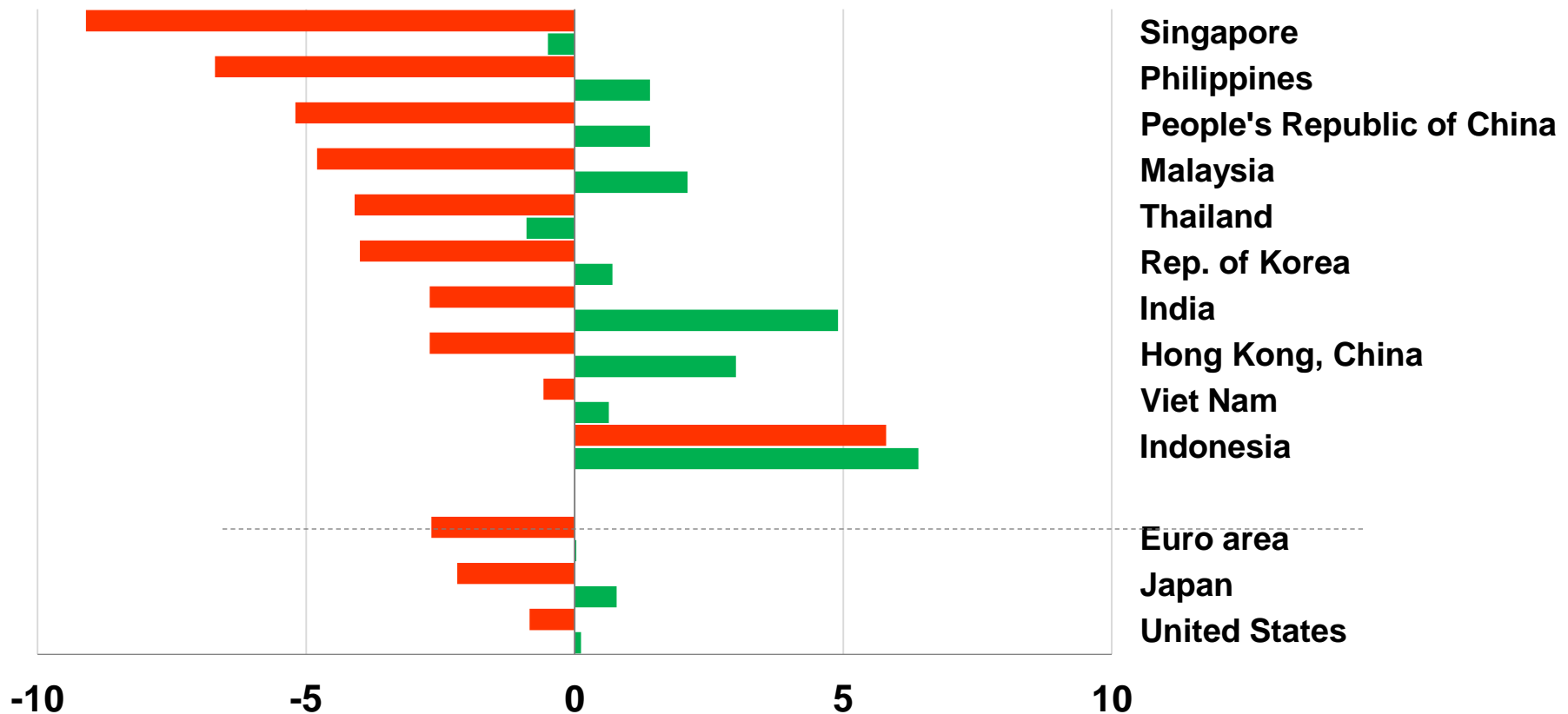


- Assume PRC growth weaker by 0.85 pp
- Rest of developing Asia's growth falls by 0.3 pp
- Japan's growth drops by 0.2 pp
- World growth declines by 0.3 pp

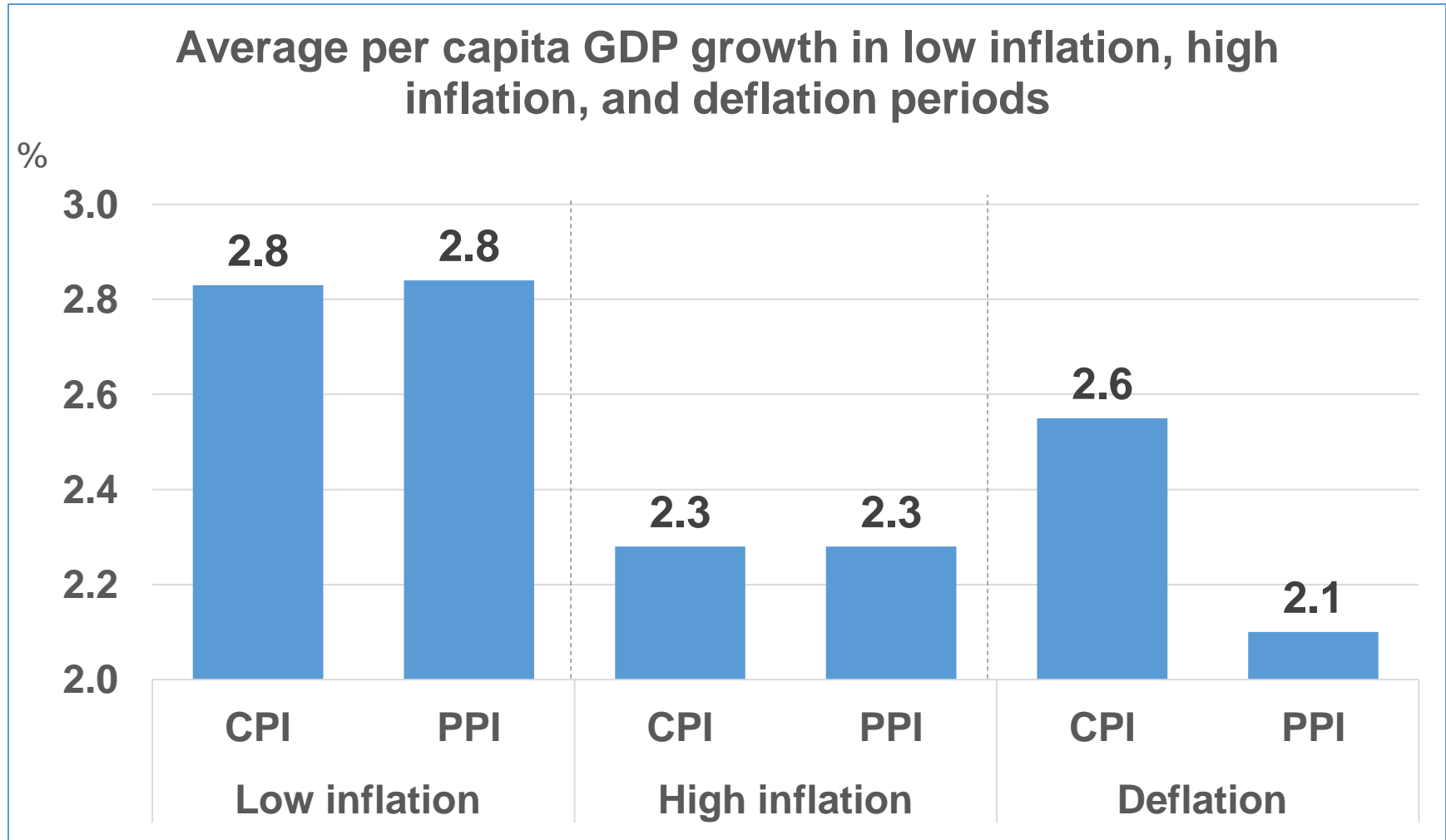
EA = Emerging Asia; LA = Latin America; PRC = People's Rep. of China; RC = remaining countries.

3. Many Asian economies are experiencing producer price deflation

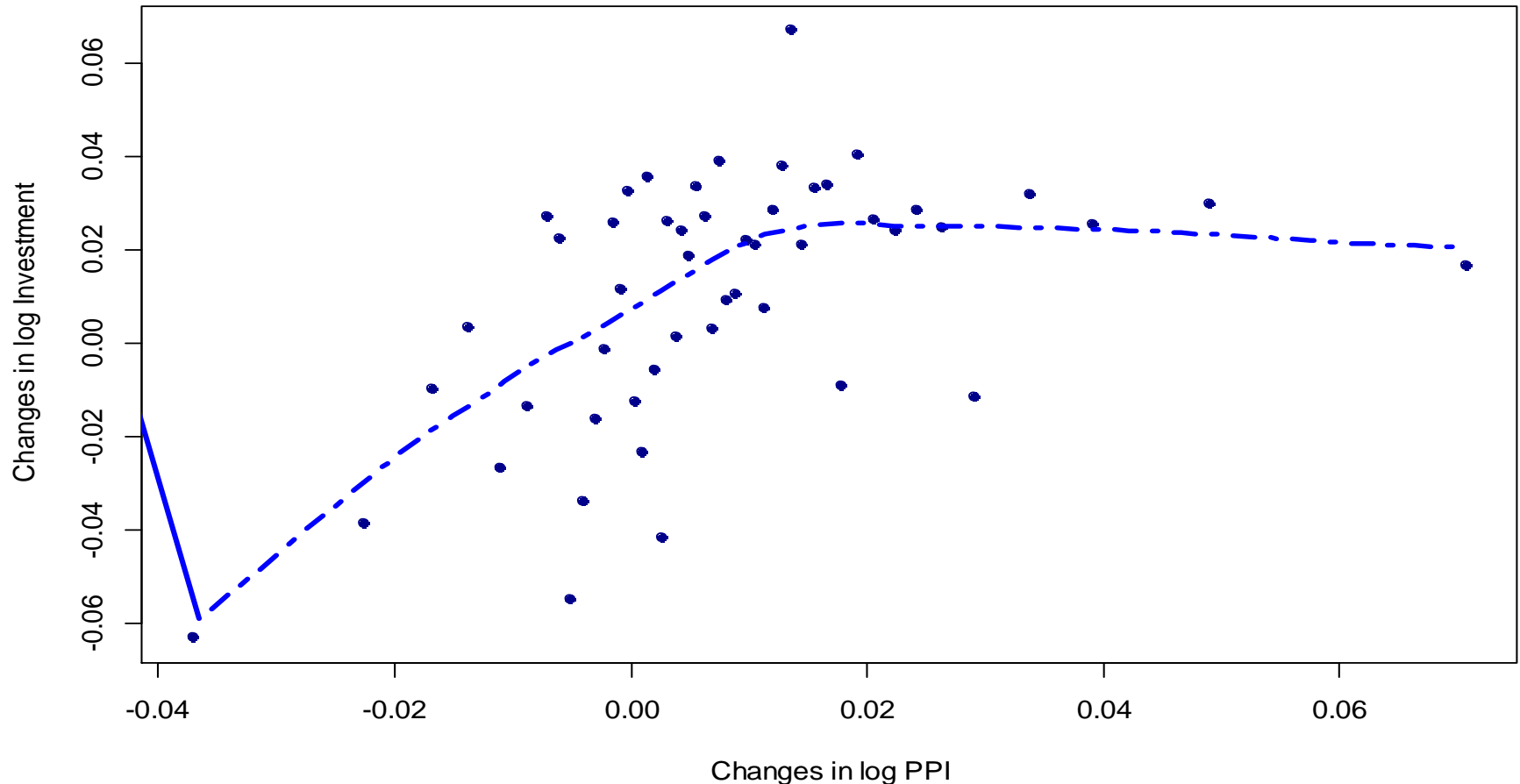
Consumer and producer prices,
2015 (% change)



Deflation appears to be associated with lower growth



Adverse effect of lower producer prices on investment



58 countries with data available worldwide from 1966 to 2014. Each dot indicate group mean, not particular of any country.

Theme chapter: Asia's potential growth

Answer these questions by looking at *potential output growth*

- Potential growth is the maximum growth rate associated with the full employment of productive resources:
 - Consistent with stable inflation: countries do not hit their potential until growth starts creating inflationary pressures;
 - Determined by policy and institutional quality, economic structure and stage of development;
 - Countries can move toward their *frontier potential growth through structural reforms* that remove factor misallocation and inefficiency.
- Potential growth is the sum of the growth rates of the labor force and labor productivity

Estimation procedure

- Method: Multivariate Filter (Aggregate Supply) consistent with:
 - Harrod: $\hat{g}_t^N = \hat{y}_t^N + \hat{n}_t^N$
 - Okun: $U_t = U_t^N - \beta_t(\hat{g}_t - \hat{g}_t^N)$
 - Phillips: $\pi_t = \pi_t^e - \gamma_t(U_t - U_t^N)$
- Estimate potential growth \hat{g}_t^N from AS Model:
 - $\pi_t = \pi_t^e + \phi_t(\hat{g}_t - \hat{g}_t^N)$
- Two specifications of π_t^e :
 - time-varying function of π_t : $\pi_t^e = \alpha_t \pi_t + \epsilon_t \rightarrow \hat{g}_t = \hat{g}_t^N + \frac{(1-\alpha_t)}{\phi_t} \pi_t + \epsilon_t$;
 - adaptive expectations: $\pi_t^e = \pi_{t-1} + \epsilon_t \rightarrow \hat{g}_t = \hat{g}_t^N + \frac{1}{\phi_t} \Delta \pi_t + \epsilon_t$
- Open-economy; time-varying parameters—using Kalman Filter
- 71 economies in total, including **23 Asian economies**

Determinants of potential growth: Policy simulations

Labor productivity growth
(~80%)



Labor force growth
(~20%)



Initial income per capita, convergence effect:
-0.33 per additional \$1,000

Tertiary enrollment ratio, positive effect up to 50%

Labor market flexibility

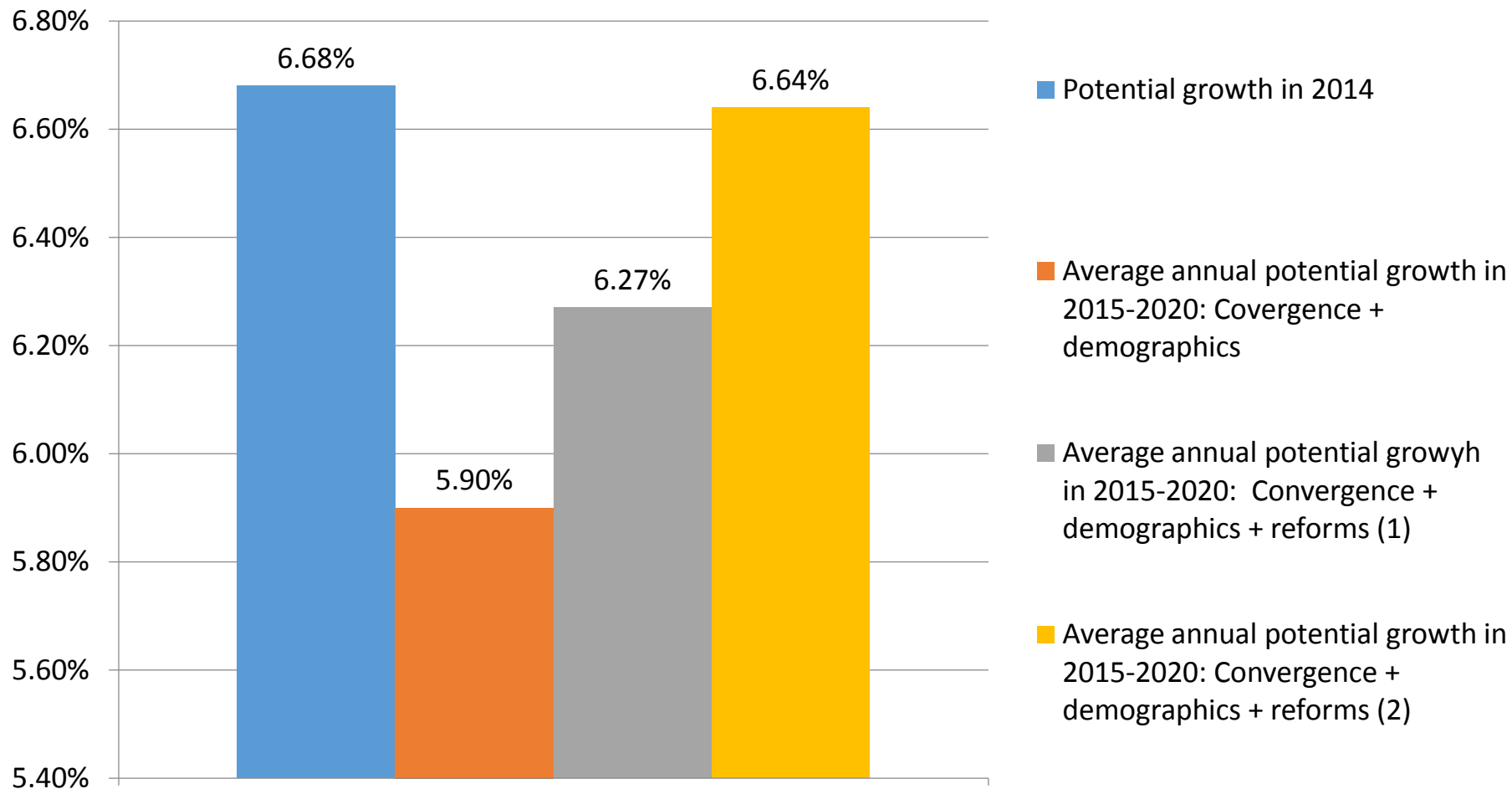
Good institution: government effectiveness

Trade ratio; positive effect up to 440% of GDP

Financial integration

Working-age population (ages 15–64) growth, one-to-one effect on potential growth

Simulation: Average annual potential growth in 2015-2020 under various scenarios



Reform (1): closing the ¹gaps in tertiary education, labour market flexibility, quality of institution, trade openness, and financial integration from the frontiers by 50% in 20 years

Reform (2): closing the gaps in tertiary education, labour market flexibility, quality of institution, trade openness, and financial integration from frontiers by 50% in 10 years

Takeaways

- Asia's potential growth has slowed.
- Factors driving down potential growth: (i) demographics; (ii) convergence process; (iii) diminishing returns of factors that increased labor productivity in the past.
- Supply-side policies and reforms can boost potential growth:
 - Demographics to the extent that it is possible;
 - Labor market flexibility; quality of institutions; trade openness; financial integration;
 - Investment in infrastructure, human capital, and technology.
- Sound macro-management can avoid volatility and reduce output gap.

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THANK YOU!

Determinants of potential growth

Working-age population growth: one-to-one relationship.

Lower income countries tend to have higher potential growth; potential growth is positively correlated with the productivity gap with US.

Positive impact of tertiary enrollment ratio peaked at 50% and of trade ratio peaked at 440 % of GDP.

Improvement in institutional quality measured by labor market flexibility, citizens participation and government effectiveness increases potential growth.

Financial integration has positive effect on potential growth.

Structural break after the crisis

Dependent variable = Potential Output Growth

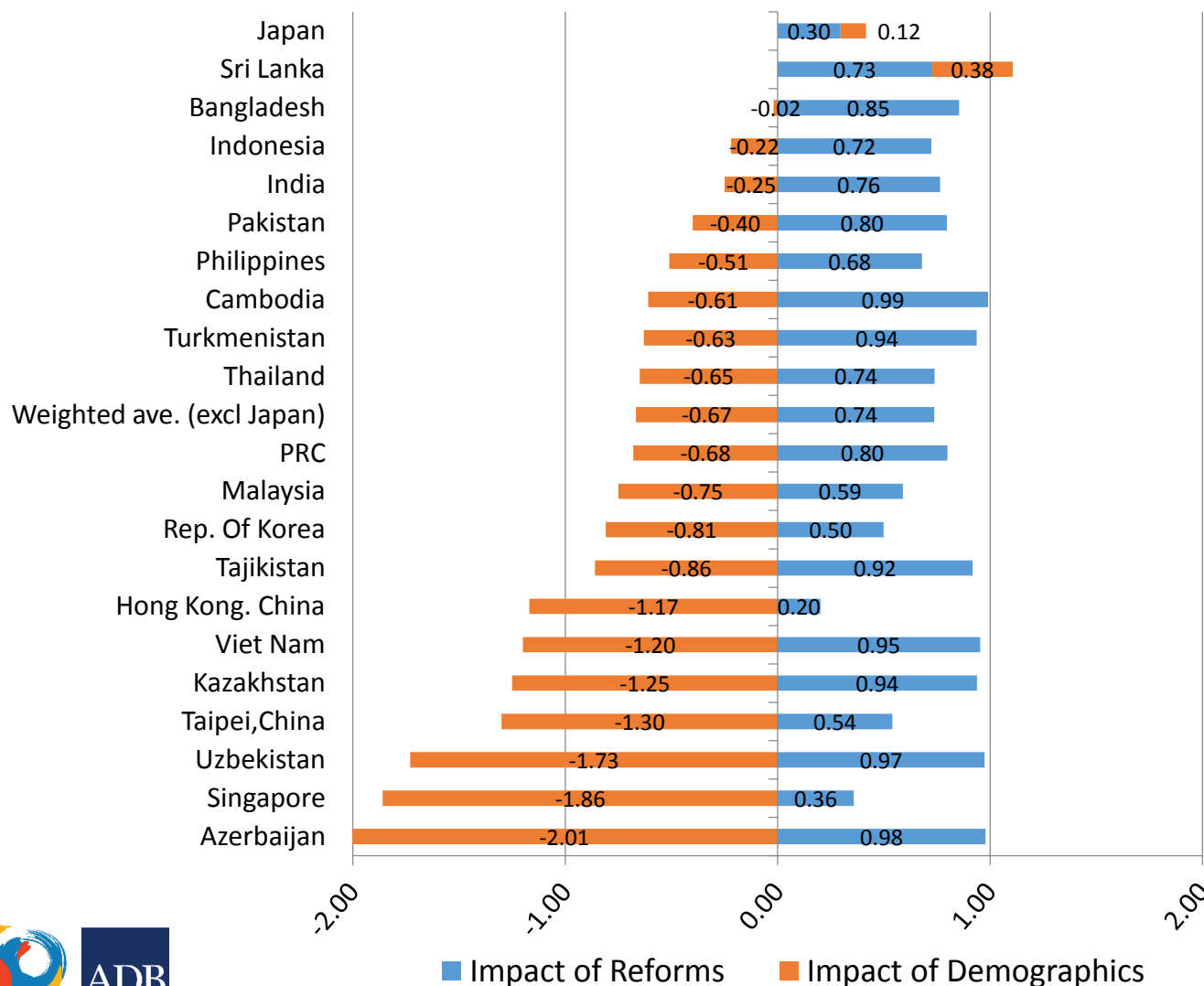
All countries

	(3)	(4)
<i>Decadal initial level of GDP per capita</i>	-.00011*	-.00033**
<i>Working-age pop .growth</i>	.87025**	1.15725**
<i>Gap with the US</i>	.03865*	.07306*
<i>Gap US x Pol .stability</i>	-	-.00613*
<i>Tertiary enrollment ratio</i>	.15810**	.16284**
<i>Tertiary enrolment squared</i>	-.00146**	-.00160**
<i>Labor market rigidity</i>	-1.97340**	-2.92375**
<i>Freedom and political accountability</i>	.75121*	1.65097^
<i>Government Effectiveness</i>	1.03906*	1.36106**
<i>Trade ratio</i>	.08266**	.06488**
<i>Trade ratio squared</i>	-.00008**	-.00007**
<i>Financial capital integration</i>	-.00197**	.00452*
<i>Financial capital x Regulatory quality</i>	-	-.00313**
<i>Break in 2008-14</i>	-2.49142**	-2.72717**
Constant	-3.55837*	-
F-statistic for	0.372	0.511
# of countries	61	61
# of observations	655	425

Notes: **, * and ^ indicate, respectively, significant at the 1%, 5% and 10% level. Variables instrumented with first lag. Driscoll and Kraay (1998) standard errors.

Closing the distance from the frontier in each determinant through reforms can offset the negative impact of demographics on potential growth for developing Asia

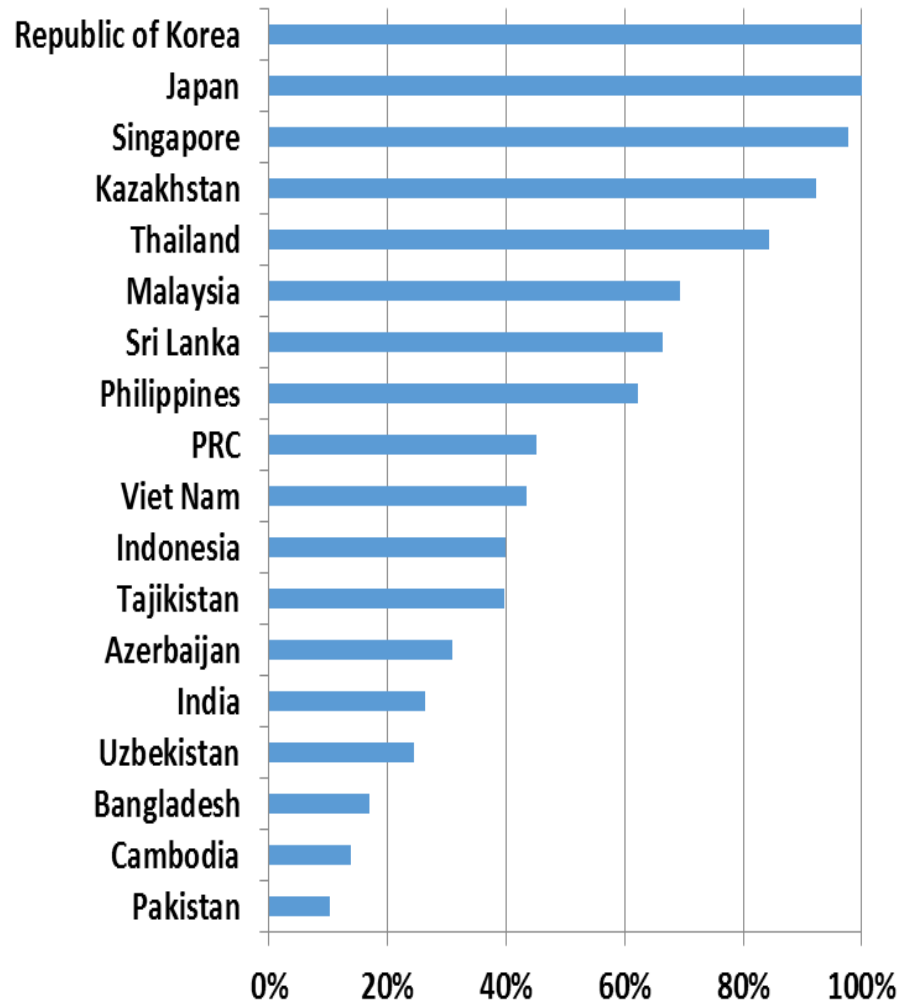
Impact on potential growth, annual increment, percentage point



- Impact of demographics is based on projected working-age population growth in 2015-2020
- Impact of reforms is based on closing the distance from the frontier by 50% in 10-years

But structural reforms can boost potential growth

Tertiary enrollment ratio



Government effectiveness

