

## Results of the Survey of Professional Forecasters on Macroeconomic Indicators– Round 41<sup>1</sup>

*Output growth, measured using Gross Value Added at basic prices, is likely to improve gradually in 2016-17 and further in 2017-18. Quarterly growth projections for the next five quarters indicate that growth is likely to improve. CPI headline inflation is likely to come down at 5.1 per cent from Q3:2016-17. Medium term (5 years) growth expectation remained unchanged at 8 per cent and inflation forecast remained unchanged at 5 per cent as indicated in the last round of the survey.*

The Reserve Bank has been conducting the Survey of Professional Forecasters since September 2007. **The results of the survey represent the views of the respondent forecasters and in no way reflect the views or forecasts of the Reserve Bank of India.** Twenty Seven professional forecasters participated in the latest survey round (Round 41) conducted in July 2016. The results of the survey are presented in the Annex in a tabular form.

### Highlights

1. **Annual Forecasts** (Median of forecasts of the respondents)
  - Forecasters expect real Gross Value Added at basic price (GVA) to increase by 7.6 per cent in 2016-17. 'Agriculture & Allied Activities' and 'Services' are expected to grow by 3.0 per cent and 8.8 per cent, respectively. 'Industry' growth forecast has been placed at 7.6 per cent (**Table 1**).
  - In 2017-18, real GVA is expected to increase by 7.8 per cent, led by growth in 'Services' by 9.0 per cent. 'Agriculture & Allied Activities' and 'Industry' are expected to grow by 3.0 per cent and 7.9 per cent, respectively.
  - CPI Headline inflation is expected to come down at 5.1 per cent from Q3:2016-17. But CPI Core inflation is expected to persist at 4.9 per cent.
  - In terms of subjective probabilities assigned to growth projections, forecasters ascribed maximum 43 per cent (last round the probability was 55 per cent) chance (based on the average of individual forecasts) that real GVA growth in 2016-17 will be in the range of 7.5-7.9 per cent (**Chart 1**). Again, for the year 2017-18, GVA growth is expected in 7.5-7.9 per cent range with 47 per cent chance (last round the probability was 48 per cent).

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<sup>1</sup> Data for the previous survey round were released on [June 7, 2016](#) on the RBI website.

<b>Table 1: Median Forecast of Real GVA (Growth Rate) for 2016-17 and 2017-18</b>			<b>Chart 1: Probability Pattern<sup>2</sup> of GVA Growth Forecast for 2016-17 and 2017-18</b>	
	<b>2016-17</b>	<b>2017-18</b>		
Real GVA	7.6 (0.0)	7.8 (0.0)		
Agriculture and Allied Activities	3.0 (+0.1)	3.0 (+0.3)		
Industry	7.6 (0.0)	7.9 (-0.1)		
Services	8.8 (0.0)	9.0 (-0.2)		
<b>Note:</b> 1. Growth rates are in per cent. 2. Figures in parentheses in all tables indicate change in forecasts from the previous survey round.				

- Private final consumption expenditure at current prices is expected to increase by 12.6 per cent in 2016-17 and further by 13.0 per cent in 2017-18 (**Table 2**).
- Gross Saving Rate is projected at around 31.5 per cent of Gross National Disposable Income (GNDI) in 2016-17 and 32.0 in 2017-18 (**Table 2**).
- Forecasters expect Gross Fixed Capital Formation Rate at 30.0 per cent of GDP in 2016-17, which is expected to improve to 30.1 per cent of GDP in 2017-18 (**Table 2**).

<b>Table 2: Median Forecast of PFCE and Capital Formation</b>		
	<b>2016-17</b>	<b>2017-18</b>
Private final consumption expenditure (growth rate in per cent)	12.6 (+1.9)	13.0 (+1.1)
Gross Saving Rate (per cent of GNDI)	31.5 (0.0)	32.0 (0.0)
Gross Fixed Capital Formation Rate (per cent of GDP)	30.0 (-1.0)	30.1 (-1.2)

- Money supply ( $M_3$ ) is expected to grow by 12.0 per cent in 2016-17 and 12.6 per cent in 2017-18. Bank credit growth is expected at 12.0 per cent in 2016-17 which is expected to improve to 13.1 per cent in 2017-18 (**Table 3**).

<b>Table 3: Median Forecast of Select Monetary and Banking Variables</b>		
	<b>2016-17</b>	<b>2017-18</b>
Money Supply ( $M_3$ )	12.0 (-0.3)	12.6 (-0.3)
Bank Credit	12.0 (0.0)	13.1 (0.0)

<sup>2</sup> Forecasters were asked to assign probabilities in the fixed range

- Central Government's gross fiscal deficit (GFD) is projected at 3.5 per cent of GDP in 2016-17 and is expected to moderate to 3.2 per cent of GDP in 2017-18. The combined GFD of Central and State Governments is projected at 6.4 per cent of GDP in 2016-17 and is expected to improve to 6.1 per cent of GDP in 2017-18 (**Table 4**).

<b>Table 4: Median Forecast of Fiscal Deficit</b>		
	<b>2016-17</b>	<b>2017-18</b>
Central Government Gross Fiscal Deficit (per cent of GDP)	3.5 (0.0)	3.2 (+0.1)
Combined Gross Fiscal Deficit (per cent of GDP)	6.4 (-0.1)	6.1 (0.0)

- Merchandise Exports is likely to increase by 2.6 per cent in 2016-17 which indicates an upward revision from 1.0 per cent in the previous round. It is expected to improve to 6.4 per cent in 2017-18 (**Table 5**).
- Current Account Deficit is projected at 1.2 per cent and 1.5 per cent (of GDP) in 2016-17 and 2017-18, respectively. Capital Account balance is expected at 2.5 per cent of GDP in 2016-17 (**Table 5**).

<b>Table 5: Median Forecast of Select External Sector Variables</b>		
	<b>2016-17</b>	<b>2017-18</b>
Merchandise Exports (growth rate in per cent)	2.6 (+1.6)	6.4 (+1.1)
Merchandise Imports (growth rate in per cent)	3.4 (+0.3)	9.4 (+2.2)
Current Account Deficit (per cent of GDP)	1.2 (+0.1)	1.5 (0.0)
Capital Account Balance (per cent of GDP)	2.5 (-0.1)	2.8 (-0.1)

## 2. Quarterly Forecasts

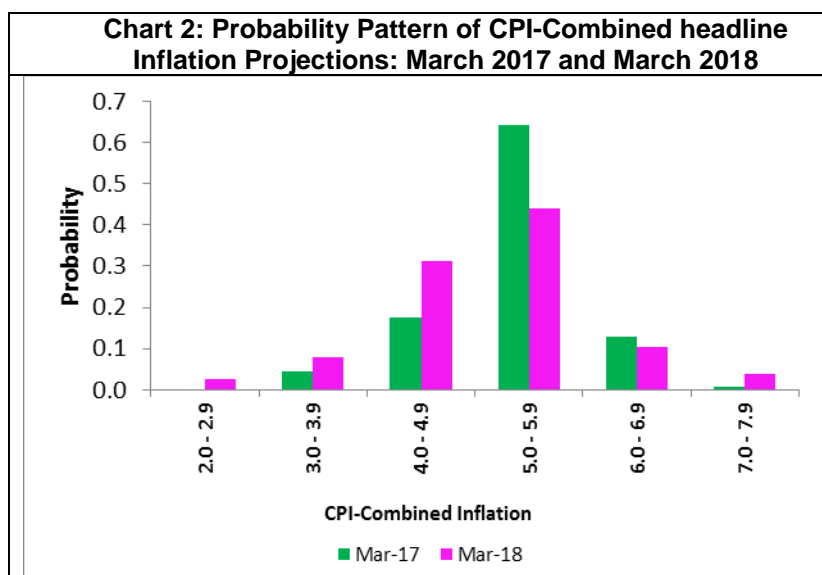
- Quarterly real GVA growth at basic prices is expected to improve gradually from 7.4 per cent in Q1: 2016-17 to 7.7 per cent in Q1:2017-18 (**Table 6**).

<b>Table 6: Median Forecast of Real GVA growth from Q1:2016-17 to Q1:2017-18</b>					
	<b>Q1:15-16</b>	<b>Q2:16-17</b>	<b>Q3:16-17</b>	<b>Q4:16-17</b>	<b>Q1:17-18</b>
Real GVA at basic prices	7.4 (0.0)	7.6 (-0.2)	7.6 (0.0)	7.7 (0.0)	7.7
Agriculture and Allied Activities	2.0 (-0.5)	2.9 (+0.3)	4.0 (+0.8)	3.0 (0.0)	2.7
Industry	7.9 (+0.7)	8.0 (+0.6)	8.0 (+0.5)	8.1 (+0.2)	7.7
Services	8.8 (-0.1)	8.7 (-0.1)	8.8 (-0.1)	8.9 (-0.1)	9.0

- CPI (Combined) headline inflation is expected to be at 5.7 per cent in Q2:2016-17 and to remain above 5.0 per cent till Q1:2017-18 (**Table 7**).
- The core CPI (defined as excluding food and fuel) inflation is expected to remain around 5.0 per cent till Q1:2017-18 (**Table 7**).
- WPI inflation is expected to increase to 4.0 per cent in Q4:2016-17 (**Table 7**).

<b>Table 7: Median Forecast of Inflation from Q2:2016-17 to Q1:2017-18</b>				
	<b>Q2:16-17</b>	<b>Q3:16-17</b>	<b>Q4:16-17</b>	<b>Q1:17-18</b>
CPI (Combined) headline	5.7 (+0.4)	5.1 (0.0)	5.1 (-0.2)	5.0
Core CPI (Combined) (excluding food & fuel)	4.9 (0.0)	4.9 (+0.1)	5.0 (+0.3)	4.9
WPI headline	2.7 (+1.4)	3.2 (+1.2)	4.0 (+0.2)	3.3

- Forecasters assigned maximum probability of 64 per cent that CPI headline inflation will fall in the range 5.0-5.9 per cent in March 2017 (**Chart 2**). Based on this probability distribution, the implicit CPI inflation for March 2017 is 5.38 per cent. For March 2018, the maximum probability of 44 per cent is assigned for the range 5.0-5.9 per cent and 31 per cent probability is assigned for the range 4.0-4.9 per cent. Based on this probability distribution, the implicit CPI inflation for March 2018 is 5.13 per cent.



- Variation observed in the forecast of the Indian Rupee ₹ against the US\$ suggest Rupee to be volatile in the short-term. In terms of median of forecast, Indian Rupee is expected to move in the range of ₹ 67.88 to ₹ 68.75 per US\$ till Q1:2017-18 (**Annex Table A.3**).

### 3. Long Term Forecasts

- The long- term real GVA growth expectations is at 8.25 per cent compared to 8.3 per cent in the previous round. The medium- term growth forecast for the next five years is persisted at 8.0 per cent (**Chart 3**).
- The average CPI inflation for the next five years is unchanged at 5.0 per cent, in the current round compared to the previous round, while the long-term ten years inflation forecast increases to 4.8 per cent from 4.5 per cent. (**Chart 4**).

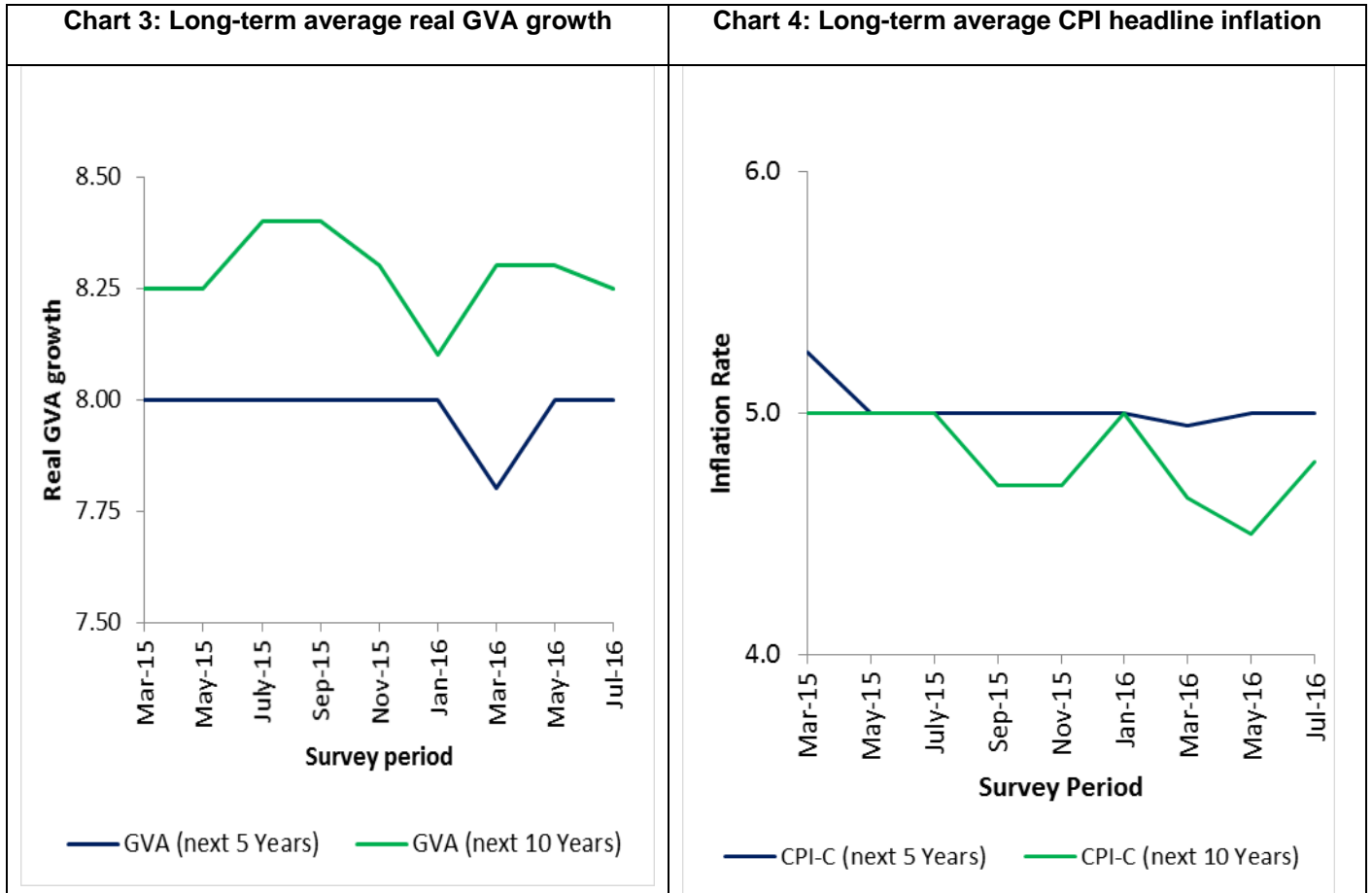


Table A.1: Annual Forecasts for 2016-17

Key Macroeconomic Indicators		Annual Forecasts for 2016-17			
		Mean	Median	Max	Min
1	Real GVA at basic prices (growth rate in per cent)	7.6	7.6	7.9	7.1
a	Agriculture & Allied Activities (growth rate in per cent)	3.2	3.0	5.5	1.4
b	Industry (growth rate in per cent)	7.6	7.6	9.0	5.9
c	Services (growth rate in per cent)	8.9	8.8	9.6	7.8
2	Private Final Consumption Expenditure at current market price (growth rate in per cent)	11.8	12.6	14.0	7.9
3	Gross Saving (per cent of Gross National Disposable Income)	31.7	31.5	34.0	30.5
4	Gross Fixed Capital Formation (per cent of GDP)	30.0	30.0	32.2	27.2
5	Money Supply (M3) (growth rate in per cent)	11.8	12.0	13.2	10.0
6	Bank Credit of Scheduled Commercial banks (growth rate in per cent)	11.9	12.0	15.8	9.2
7	Combined Gross Fiscal Deficit (per cent of GDP)	6.4	6.4	7.0	6.0
8	Central Government Gross Fiscal Deficit (per cent of GDP)	3.5	3.5	3.8	3.5
9	Repo Rate(end period)	6.28	6.25	6.50	6.25
10	CRR (end period)	3.98	4.00	4.00	3.50
11	Yield of 91-Days Treasury Bills (end period)	6.7	6.7	7.2	6.3
12	YTM of Central Govt. Securities with term to maturity of 10-years (end period)	7.2	7.2	7.6	6.8
13	Overall Balance of Payments (in US \$ bn.)	29.8	29.0	70.0	1.0
14	Merchandise Exports (in US \$ bn.)	271.2	273.5	286.8	231.0
15	Merchandise Exports (growth rate in per cent)	1.4	2.6	7.7	-12.0
16	Merchandise Imports (in US \$ bn.)	402.1	410.5	432.6	276.0
17	Merchandise Imports (growth rate in percent)	1.9	3.4	9.1	-9.0
18	Merchandise Trade Balance (per cent of GDP)	-5.5	-6.2	6.6	-6.9
19	Net Invisible Balance (in US \$ bn.)	110.1	111.2	126.0	83.4
20	Current Account Balance (in US \$ bn.)	-17.9	-25.3	31.8	-39.3
21	Current Account Balance (per cent of GDP)	-1.1	-1.2	0.5	-1.8
22	Capital Account Balance (in US \$ bn.)	73.6	57.3	382.2	26.5
23	Capital Account Balance (per cent of GDP)	2.5	2.5	4.1	1.2

Table A.2: Annual Forecasts for 2017-18

Key Macroeconomic Indicators		Annual Forecasts for 2017-18			
		Mean	Median	Max	Min
1	Real GVA at basic prices (growth rate in per cent)	7.8	7.8	8.3	7.2
a	Agriculture & Allied Activities (growth rate in per cent)	2.8	3.0	3.8	1.7
b	Industry (growth rate in per cent)	7.9	7.9	9.2	6.3
c	Services (growth rate in per cent)	9.1	9.0	10.4	8.3
2	Private Final Consumption Expenditure at current market price (growth rate in per cent)	12.6	13.0	14.5	8.5
3	Gross Saving (per cent of Gross National Disposable Income)	32.0	32.0	34.5	30.8
4	Gross Fixed Capital Formation (per cent of GDP)	30.5	30.1	33.1	29.2
5	Money Supply (M3) (growth rate in per cent)	12.8	12.6	14.9	10.8
6	Bank Credit of Scheduled Commercial banks (growth rate in per cent)	13.2	13.1	17.4	10.5
7	Combined Gross Fiscal Deficit (per cent of GDP)	6.1	6.1	6.7	5.5
8	Central Government Gross Fiscal Deficit (per cent of GDP)	3.2	3.2	3.7	3.0
9	Repo Rate(end period)	6.25	6.25	6.75	5.75
10	CRR (end period)	3.97	4.00	4.00	3.50
11	Yield of 91-Days Treasury Bills (end period)	6.7	6.8	7.5	5.7
12	YTM of Central Govt. Securities with term to maturity of 10-years (end period)	7.2	7.2	7.7	6.5
13	Overall Balance of Payments (in US \$ bn.)	35.3	34.0	52.6	14.6
14	Merchandise Exports (in US \$ bn.)	295.3	299.1	318.0	261.0
15	Merchandise Exports (growth rate in per cent)	6.9	6.4	11.7	1.6
16	Merchandise Imports (in US \$ bn.)	439.9	449.0	483.0	280.0
17	Merchandise Imports (growth rate in per cent)	8.8	9.1	13.4	1.4
18	Merchandise Trade Balance (per cent of GDP)	-4.9	-6.3	6.7	-6.7
19	Net Invisible Balance (in US \$ bn.)	118.5	117.6	130.0	112.0
20	Current Account Balance (in US \$ bn.)	-24.9	-34.8	45.9	-62.7
21	Current Account Balance (per cent of GDP)	-1.3	-1.5	1.5	-2.4
22	Capital Account Balance (in US \$ bn.)	106.4	75.2	485.5	52.0
23	Capital Account Balance (per cent of GDP)	2.9	2.8	3.8	2.2

**Table A.3: Quarterly Forecasts from Q1:2016-17 to Q1:2017-18**

	Key Macroeconomic Indicators	Quarterly Forecasts							
		Q1: 2016-17				Q2: 2016-17			
		Mean	Median	Max	Min	Mean	Median	Max	Min
1	Real GVA at basic prices (growth rate in per cent)	7.4	7.4	7.8	6.8	7.7	7.6	9.5	6.7
a	Agriculture & Allied Activities (growth rate in per cent)	1.7	2.0	3.5	-2.1	2.8	2.9	4.6	1.1
b	Industry (growth rate in per cent)	7.8	7.9	11.3	5.7	7.8	8.0	11.4	5.7
c	Services (growth rate in per cent)	8.7	8.8	9.5	7.9	8.6	8.7	9.7	7.4
2	Private Final Consumption Expenditure (growth rate in per cent)	12.2	12.4	12.9	11.0	11.9	12.2	13.2	10.2
3	Gross Fixed Capital Formation (per cent of GDP)	29.5	29.4	31.7	27.5	29.7	30.0	31.4	28.0
4	₹ per U.S. Dollar (RBI reference rate-end period)	-	-	-	-	67.78	67.88	68.90	66.40
5	Repo Rate (end period)	-	-	-	-	6.49	6.50	6.75	6.25
6	CRR (end period)	-	-	-	-	3.97	4.00	4.00	3.50
7	Merchandise Export (in US\$ bn.)	66.6	66.7	68.7	62.1	67.6	67.3	72.1	62.0
8	Merchandise Import (in US\$ bn.)	94.7	95.1	100.2	86.7	99.5	99.1	110.3	88.0
9	Indian Crude Oil basket Price (in US\$ per barrel)	-	-	-	-	45.6	46.3	56.2	31.2

	Key Macroeconomic Indicators	Quarterly Forecasts											
		Q3: 2016-17				Q4: 2016-17				Q1: 2017-18			
		Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min
1	Real GVA at basic prices (growth rate in per cent)	7.5	7.6	8.3	6.9	7.6	7.7	8.2	6.8	7.7	7.7	8.3	7.2
a	Agriculture & Allied Activities (growth rate in per cent)	4.1	4.0	7.1	1.2	3.2	3.0	4.5	1.4	2.8	2.7	3.5	1.6
b	Industry (growth rate in per cent)	7.9	8.0	11.5	6.1	7.9	8.1	12.0	6.1	8.0	7.7	12.1	6.3
c	Services (growth rate in per cent)	8.7	8.8	9.5	7.6	9.0	8.9	10.5	7.6	9.2	9.0	10.5	8.2
2	Private Final Consumption Expenditure (growth rate in per cent)	12.7	12.3	14.2	11.5	12.7	13.0	14.5	11.0	12.4	12.5	14.8	10.5
3	Gross Fixed Capital Formation (per cent of GDP)	28.6	28.3	30.3	27.5	28.6	28.6	30.5	26.8	29.6	29.3	31.4	27.4
4	₹ per U.S. Dollar (RBI reference rate-end period)	68.59	68.67	69.90	67.00	68.60	68.75	70.40	66.70	68.28	68.70	70.50	66.23
5	Repo Rate (end period)	6.28	6.25	6.50	6.25	6.28	6.25	6.50	6.25	6.20	6.25	6.50	6.00
6	CRR (end period)	3.97	4.00	4.00	3.50	3.97	4.00	4.00	3.50	3.95	4.00	4.00	3.50
7	Merchandise Export (in US\$ bn.)	68.3	69.2	72.2	61.1	69.6	70.7	73.7	60.2	70.8	71.3	76.3	61.8
8	Merchandise Import (in US\$ bn.)	103.2	103.9	109.6	93.8	105.2	106.5	113.0	90.9	107.5	107.0	115.5	98.7
9	Indian Crude Oil basket Price (in US\$ per barrel)	45.2	47.8	51.3	31.0	47.0	48.7	55.0	30.0	48.7	50.9	57.4	30.5

**Table A.4: Forecasts of CPI-Combined Inflation**

	CPI Combined Headline				Core CPI Combined (excluding food & fuel)			
	Mean	Median	Max	Min	Mean	Median	Max	Min
Q2:2016-17	5.7	5.7	6.2	5.1	4.8	4.9	5.4	4.3
Q3:2016-17	5.1	5.1	5.6	4.5	4.8	4.9	5.7	3.8
Q4:2016-17	5.0	5.1	5.5	4.5	4.7	5.0	5.6	3.4
Q1:2017-18	4.9	5.0	5.7	4.3	4.6	4.9	6.0	3.2

**Table A.5: Forecasts of WPI Inflation**

	WPI Headline				WPI-Manufactured Products			
	Mean	Median	Max	Min	Mean	Median	Max	Min
Q2:2016-17	2.6	2.7	4.1	-0.9	1.4	1.7	2.7	-1.4
Q3:2016-17	2.8	3.2	4.2	-0.9	2.0	1.7	3.6	-1.5
Q4:2016-17	3.4	4.0	5.7	-0.9	2.4	2.7	4.3	-1.4
Q1:2017-18	2.8	3.3	4.6	1.0	2.2	2.5	4.1	-0.9

**Table A.6: Mean probabilities attached to possible outcomes of real GVA growth**

Growth Range	Forecasts for 2016-17	Forecasts for 2017-18
Below 2.0 per cent	0.00	0.00
2.0 to 2.4 per cent	0.00	0.00
2.5 to 2.9 per cent	0.00	0.00
3.0 to 3.4 per cent	0.00	0.00
3.5 to 3.9 per cent	0.00	0.00
4.0 to 4.4 per cent	0.00	0.00
4.5 to 4.9 per cent	0.00	0.00
5.0 to 5.4 per cent	0.00	0.00
5.5 to 5.9 per cent	0.00	0.00
6.0 to 6.4 per cent	0.00	0.02
6.5 to 6.9 per cent	0.05	0.07
7.0 to 7.4 per cent	0.28	0.18
7.5 to 7.9 per cent	0.43	0.47
8.0 to 8.4 per cent	0.14	0.19
8.5 to 8.9 per cent	0.01	0.07
9.0 to 9.4 per cent	0.00	0.00
9.5 to 9.9 per cent	0.00	0.00
10.0 per cent or more	0.00	0.00



**Table A.7: Mean probabilities attached to possible outcomes of CPI (Combined) inflation**

Inflation Range	Forecasts for March 2017	Forecasts for March 2018
Below 0 per cent	0.00	0.00
0 to 0.9 per cent	0.00	0.00
1.0 to 1.9 per cent	0.00	0.00
2.0 to 2.9 per cent	0.00	0.03
3.0 to 3.9 per cent	0.05	0.08
4.0 to 4.9 per cent	0.18	0.31
5.0 to 5.9 per cent	0.64	0.44
6.0 to 6.9 per cent	0.13	0.10
7.0 to 7.9 per cent	0.01	0.04
8.0 to 8.9 per cent	0.00	0.00
9.0 to 9.9 per cent	0.00	0.00
10.0 to 10.9 per cent	0.00	0.00
11.0 to 11.9 per cent	0.00	0.00
12.0 to 12.9 per cent	0.00	0.00
13.0 to 13.9 per cent	0.00	0.00
14.0 per cent or above	0.00	0.00

**Table A.8: Mean probabilities attached to possible outcomes of WPI inflation**

Inflation Range	Forecasts for March 2017	Forecasts for March 2018
Below 0 per cent	0.00	0.00
0 to 0.9 per cent	0.08	0.00
1.0 to 1.9 per cent	0.21	0.06
2.0 to 2.9 per cent	0.16	0.27
3.0 to 3.9 per cent	0.23	0.30
4.0 to 4.9 per cent	0.22	0.20
5.0 to 5.9 per cent	0.09	0.12
6.0 to 6.9 per cent	0.00	0.04
7.0 to 7.9 per cent	0.00	0.00
8.0 to 8.9 per cent	0.00	0.00
9.0 to 9.9 per cent	0.00	0.00
10.0 to 10.9 per cent	0.00	0.00
11.0 to 11.9 per cent	0.00	0.00
12.0 to 12.9 per cent	0.00	0.00
13.0 to 13.9 per cent	0.00	0.00
14.0 per cent or above	0.00	0.00

**Table A.9: Annual Average Percentage Change**

	Annual average percentage change over the next five years				Annual average percentage change over the next ten years			
	Mean	Median	Max	Min	Mean	Median	Max	Min
Real GVA	7.8	8.00	8.2	7.0	8.1	8.3	9.0	7.0
CPI Combined	5.0	5.00	5.5	4.7	4.7	4.8	5.3	4.0
WPI	3.8	3.70	5.0	2.5	3.9	4.0	5.0	3.0