Monetary Authority of Singapore

economic policy group

survey of professional forecasters

Dataset Documentation

Overview

The MAS Survey of Professional Forecasters (SPF), which started in 1999, is aimed at collating the short-term projections of Singapore's key macroeconomic variables made by professional forecasters based in Singapore. The survey is released each quarter in the first week of March, June, September and December, after the release of economic data for the previous quarter by the Ministry of Trade and Industry (MTI). The main objective of the survey is to establish a regular and consistent benchmark on private sector expectations of key economic variables that are relevant to the Singapore economy. The summary results are released on the MAS website. These survey results reflect expectations held by respondents and do not represent the views or forecasts of the MAS.

This documentation provides information on the variables forecasted and the format of the files and data series available for download.

Timing of the Survey

The first survey was conducted in Q4 1999. Each survey's timing coincides with the release of the *Quarterly Economic Survey of Singapore* (QES) of every quarter. The survey questionnaire is sent to forecasters after the QES is released to the public, so forecasters' information sets would include the data in the QES report. The MAS SPF report is released no later than the second Wednesday of the last month of each quarter.

Table 1
Timing of the MAS Survey of Professional Forecasters

Survey quarter	Questionnaire sent out	Last quarter of information published	Deadline for Submission	Results released to the public
First Quarter	Middle of Feb (after AES)	Q4	End of Feb	No later than the second Wednesday of Mar
Second Quarter	Middle of May (after QES)	Q1	End of May	No later than the second Wednesday of Jun
Third Quarter	Middle of Aug (after QES)	Q2	End of Aug	No later than the second Wednesday of Sep
Fourth Quarter	Middle of Nov (after QES)	Q3	End of Nov	No later than the second Wednesday of Dec

Description of Dataset

1 Variables

The MAS Survey of Professional Forecasters contains forecasts for these key economic indicators:

1) Gross Domestic Product (GDP) (year-on-year growth in percentage terms and constant prices)
2) Private consumption (year-on-year growth in percentage terms and constant prices)
3) Non-oil domestic exports (year-on-year growth in percentage terms and constant prices)
4) Sectoral variables[1]:
    a. Manufacturing (year-on-year growth in percentage terms and constant prices)
    b. Finance & Insurance (year-on-year growth in percentage terms and constant prices)
    c. Construction (year-on-year growth in percentage terms and constant prices)
    d. Wholesale and Retail Trade (year-on-year growth in percentage terms and constant prices)
    e. Accommodation & Food Services (year-on-year growth in percentage terms and constant prices)
5) Consumer Price Index (All-Items) (year-on-year growth, in percentage terms)
6) MAS Core Inflation (year-on-year growth, in percentage terms)
7) Unemployment Rate (seasonally adjusted in percentage terms, end of period)
8) Financial variables:
    a. Bank loans (year-on-year growth in percentage terms, end of period)
    b. 3-month interbank rate (percent per annum, end of period)
    c. 3-month S$ SIBOR (percent per annum, end of period)
    d. Exchange rate (USD/SGD, end of period)

2 Changes in Base Year

There have been a number of changes of base year since the survey began. The first CPI series was compiled in 1960 using the results of the Household Expenditure Survey (HES) conducted in 1956/57. The series was replaced in 1974 based on the results of the 1972/73 HES. Since then, regular reviews were carried out in every five years – 1977/78, 1982/83, 1987/88, 1992/93, 1997/98, 2003/04 and 2007/08. The base-year period of a CPI series thus corresponds to the period when the HES' are conducted. The latest revision, with base year 2009, was based on the results of the Household Expenditure Survey conducted from Oct 2007 to Sep 2008.[2] The GDP series has been rebased every five years to the following base years: 1990, 1995, 2000, 2005 and 2010.[3]

These are documented in Table 3.

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1 Forecasts for the manufacturing, financial services and construction sectors only began in Q4 2000. In place of forecasts for the various sectors, the surveys from Q4 1999 to Q3 2000 compiled forecasts for industrial production.

Before 2005, analysts were asked to provide their forecasts for the 'Commerce' sector, which comprised 'Wholesale & Retail Trade' plus 'Accommodation & Food Services'. However, from the Q1 2005 MAS SPF onwards, the survey was modified to include forecasts for 'Wholesale & Retail Trade' and 'Accommodation & Food Services' as separate sectors.

2 For more information on the rebasing of the CPI series, please refer to the Department of Statistics Information Paper available at the following link: http://www.singstat.gov.sg/pubn/papers/economy/ip-e36.pdf.

3 For more information on the rebasing of the GDP series, please refer to the Department of Statistics Information Paper available at the following link: http://www.singstat.gov.sg/publications/publications_and_papers/national_accounts/ip-e40.pdf.

Table 3
Changes in Base Year

Variable	Survey Range	Base Year
CPI-All Items	Q4 1999 – Q1 2005	1997
	Q2 2005 – Q1 2010	2004
	Q2 2010 – present	2009
GDP	Q4 1999 – Q4 2002	1990
	Q1 2003 – Q4 2005	1995
	Q1 2006 – Q4 2009	2000
	Q1 2010 – Q4 2013	2005
	Q1 2014 – present	2010

3 Forecast Horizons

The MAS SPF dataset contains projections for up to three different forecast horizons for each of the economic indicators:

1) An annual average forecast for the current calendar year.
2) An annual average forecast for the next calendar year.
3) A 'rolling-horizon' forecast for the current year's quarters.

Table 2 gives an example of the forecast horizons included at four successive survey dates, from Q2 2016 to Q1 2017.

Table 2
Forecast Horizons

Survey Date	Quarterly 'Rolling-Horizon' Forecasts				Annual Average Forecasts	
Q2 2016	-	Q2 2016	Q3 2016	Q4 2016	2016	2017
Q3 2016	-	-	Q3 2016	Q4 2016	2016	2017
Q4 2016	-	-	-	Q4 2016	2016	2017
	Q1 2017	Q2 2017	Q3 2017	Q4 2017		
Q1 2017	Q1 2017	Q2 2017	Q3 2017	Q4 2017	2017	2018

The forecast horizons have evolved over the years. Please refer to Annex A for details on the forecast horizons at each survey release.

4 Types of Forecasts

For GDP and inflation variables there are two types of forecasts made in the MAS SPF:

1) Point Forecasts
Forecasters provide a single value of the forecast variable for each of the time periods in the forecast horizon.

2) Probability Distribution Forecasts

Forecasters also provide a probability distribution of the predicted outcomes for each of the time periods in the forecast horizon. The MAS provides the set of intervals for each variable at each round, for which, forecasters report the probability distribution. This set of intervals varies across surveys and variables, to take into account prevailing economic developments. The probability distribution forecasts were introduced in the third quarter of 2001 for GDP growth and the fourth quarter of 2017 for CPI-All Items and MAS Core inflation figures. Please refer to Annex B, C and D for details on the probability distribution intervals at each survey release. The intervals at the top and bottom end of the probability distribution are open intervals, in the sense that there is no upper or lower limit to the GDP and inflation forecast respondents assign probabilities to.

For all other variables, only the point forecasts are collected.

Forecasts of Individual Participants

In reporting the results of the MAS Survey of Professional Forecasters, the identities of the participants are kept confidential. However, we include an additional column giving the forecaster's confidential identification number (ID). This column appears after the columns giving the year and quarter in which the survey was conducted.

The identification numbers are consistent over time, allowing users of the dataset to trace a given forecaster's response from one survey to the next. In recent years, the sample size has ranged from 20 to 30 forecasters, with a response rate of more than 80% each survey. Over time, respondents may drop out or be added to the sample pool.

Caveats on Using the Dataset

Users of the dataset should note that at each survey, the forecasters would have based their projections on real-time data, which are subject to subsequent revisions.

As noted above, the dataset of individual responses is coded with an identification number for each forecaster. In principle, this identifier allows one to track the individual responses over time. However, some caveats should be noted in using these numbers. The identifiers for the forecasters represent individual institutions. However, at times when an individual economist changes his place of employment, we continue to use the identification number associated with the firm and not with the economist making the forecast.

At other times, institutions may merge or be taken over. In such an event, we will not assign a new individual identification number for the newly formed institution, but would retain the identification number of one of the institutions before the merger. This would depend on which institution the forecasts are more strongly associated with. For example, if the economist at institution A continues to provide the forecasts even after institution A and institution B have merged, then we would continue to use the identification number for institution A.

Annex A

Evolution of Forecast Horizon Structure at each Survey Release

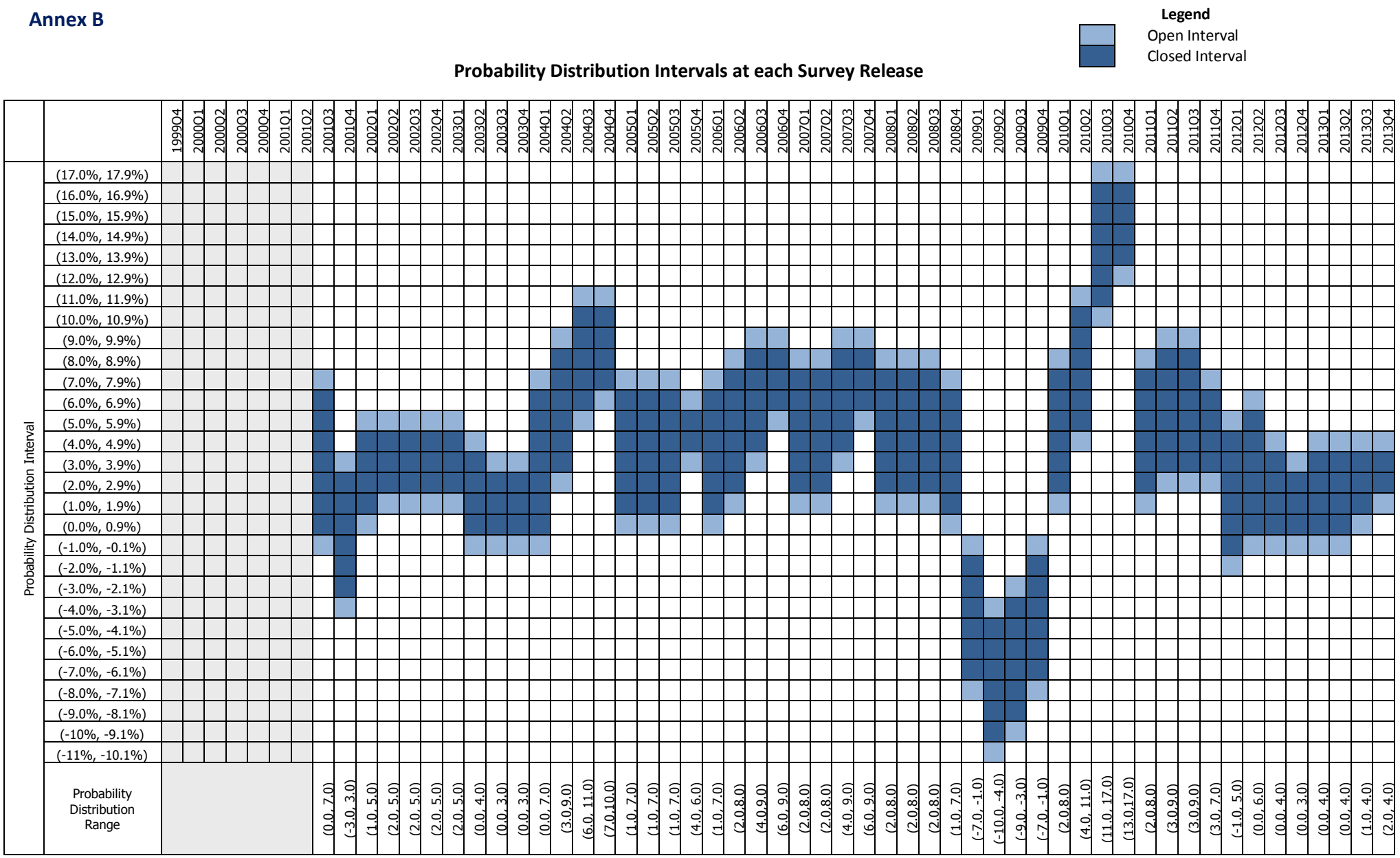
| Forecast Horizon | SPF Round | | |

Annex A

Evolution of Forecast Horizon Structure at each Survey Release

Forecast Horizon	SPF Round: 2010Q1	2010Q2	2010Q3	2010Q4	2011Q1	2011Q2	2011Q3	2011Q4	2012Q1	2012Q2	2012Q3	2012Q4	2013Q1	2013Q2	2013Q3	2013Q4	2014Q1	2014Q2	2014Q3	2014Q4	2015Q1	2015Q2	2015Q3	2015Q4	2016Q1	2016Q2	2016Q3	2016Q4	2017Q1	2017Q2	2017Q3	2017Q4	2018Q1	2018Q2
Current calendar year (full year)																																		
Next calendar year (full year)																																		
Calendar year two years ahead																																		
Current calendar year Q1																																		
Current calendar year Q2																																		
Current calendar year Q3																																		
Current calendar year Q4																																		
Next calendar year Q1																																		
Next calendar year Q2																																		
Next calendar year Q3																																		
Next calendar year Q4																																		

Annex B


Legend
Open Interval
Closed Interval
Probability Distribution Intervals at each Survey Release
Probability Distribution Interval
(17.0%, 17.9%)
(16.0%, 16.9%)
(15.0%, 15.9%)
(14.0%, 14.9%)
(13.0%, 13.9%)
(12.0%, 12.9%)
(11.0%, 11.9%)
(10.0%, 10.9%)
(9.0%, 9.9%)
(8.0%, 8.9%)
(7.0%, 7.9%)
(6.0%, 6.9%)
(5.0%, 5.9%)
(4.0%, 4.9%)
(3.0%, 3.9%)
(2.0%, 2.9%)
(1.0%, 1.9%)
(0.0%, 0.9%)
(-1.0%, -0.1%)
(-2.0%, -1.1%)
(-3.0%, -2.1%)
(-4.0%, -3.1%)
(-5.0%, -4.1%)
(-6.0%, -5.1%)
(-7.0%, -6.1%)
(-8.0%, -7.1%)
(-9.0%, -8.1%)
(-10%, -9.1%)
(-11%, -10.1%)
1999Q4
2000Q1
2000Q2
2000Q3
2000Q4
2001Q1
2001Q2
2001Q3
2001Q4
2002Q1
2002Q2
2002Q3
2002Q4
2003Q1
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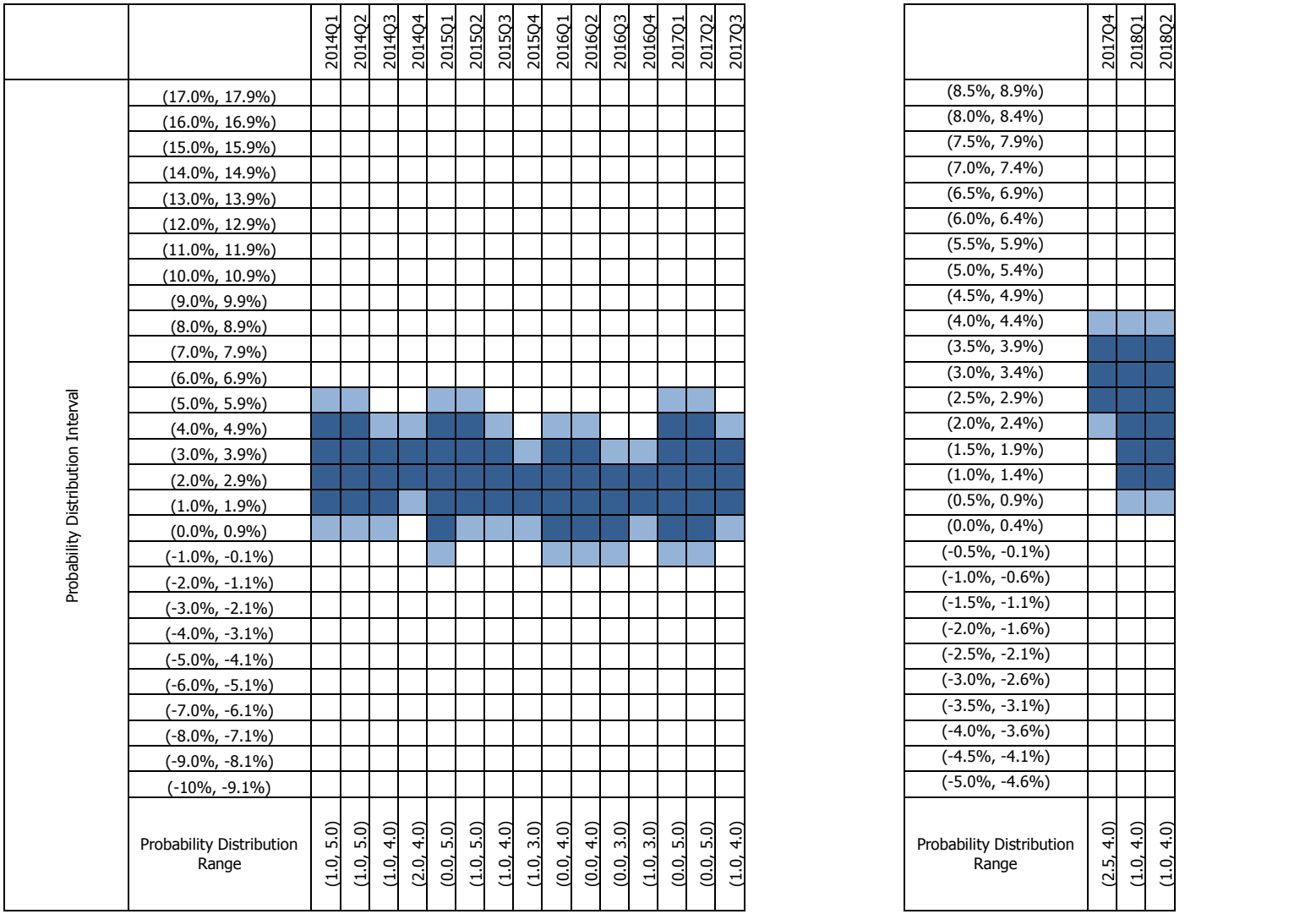
2010Q3
2010Q4
2011Q1
2011Q2
2011Q3
2011Q4
2012Q1
2012Q2
2012Q3
2012Q4
2013Q1
2013Q2
2013Q3
2013Q4
Probability Distribution Range
(0.0, 7.0)
(-3.0, 3.0)
(1.0, 5.0)
(2.0, 5.0)
(2.0, 5.0)
(2.0, 5.0)
(2.0, 5.0)
(0.0, 4.0)
(0.0, 3.0)
(0.0, 3.0)
(0.0, 7.0)
(3.0,9.0)
(6.0, 11.0)
(7.0,10.0)
(1.0, 7.0)
(1.0, 7.0)
(1.0, 7.0)
(4.0, 6.0)
(1.0, 7.0)
(2.0,8.0)
(4.0,9.0)
(6.0, 9.0)
(2.0,8.0)
(2.0,8.0)
(4.0, 9.0)
(6.0, 9.0)
(2.0,8.0)
(2.0,8.0)
(2.0,8.0)
(1.0, 7.0)
(-7.0, -1.0)
(-10.0, -4.0)
(-9.0, -3.0)
(-7.0, -1.0)
(2.0,8.0)
(4.0, 11.0)
(11.0, 17.0)
(13.0,17.0)
(2.0,8.0)
(3.0,9.0)
(3.0,9.0)
(3.0, 7.0)
(-1.0, 5.0)
(0.0, 6.0)
(0.0, 4.0)
(0.0, 3.0)
(0.0, 4.0)
(0.0, 4.0)
(1.0, 4.0)
(2.0, 4.0)

Annex B

GDP Growth Probability Distribution Intervals at each Survey Release



Annex C

Legend
Open Interval
Closed Interval

CPI-All Items Inflation Probability Distribution Intervals at each Survey Release

		2017Q4	2018Q1	2018Q2
Probability Distribution Interval	(8.5%, 8.9%)			
	(8.0%, 8.4%)			
	(7.5%, 7.9%)			
	(7.0%, 7.4%)			
	(6.5%, 6.9%)			
	(6.0%, 6.4%)			
	(5.5%, 5.9%)			
	(5.0%, 5.4%)			
	(4.5%, 4.9%)			
	(4.0%, 4.4%)			
	(3.5%, 3.9%)			
	(3.0%, 3.4%)			
	(2.5%, 2.9%)			
	(2.0%, 2.4%)			
	(1.5%, 1.9%)			
	(1.0%, 1.4%)			
	(0.5%, 0.9%)			
	(0.0%, 0.4%)			
	(-0.5%, -0.1%)			
	(-1.0%, -0.6%)			
	(-1.5%, -1.1%)			
	(-2.0%, -1.6%)			
	(-2.5%, -2.1%)			
	(-3.0%, -2.6%)			
	(-3.5%, -3.1%)			
	(-4.0%, -3.6%)			
	(-4.5%, -4.1%)			
	(-5.0%, -4.6%)			
	Probability Distribution Range	(-1.0, 3.0)	(-1.0, 3.0)	(-1.0, 3.0)

Annex D

Legend
Open Interval
Closed Interval

MAS Core Inflation Probability Distribution Intervals at each Survey Release

		2017Q4	2018Q1	2018Q2
Probability Distribution Interval	(8.5%, 8.9%)			
	(8.0%, 8.4%)			
	(7.5%, 7.9%)			
	(7.0%, 7.4%)			
	(6.5%, 6.9%)			
	(6.0%, 6.4%)			
	(5.5%, 5.9%)			
	(5.0%, 5.4%)			
	(4.5%, 4.9%)			
	(4.0%, 4.4%)			
	(3.5%, 3.9%)			
	(3.0%, 3.4%)			
	(2.5%, 2.9%)			
	(2.0%, 2.4%)			
	(1.5%, 1.9%)			
	(1.0%, 0.4%)			
	(0.5%, 0.9%)			
	(0.0%, 0.4%)			
	(-0.5%, -0.1%)			
	(-1.0%, -0.6%)			
	(-1.5%, -1.1%)			
	(-2.0%, -1.6%)			
	(-2.5%, -2.1%)			
	(-3.0%, -2.6%)			
	(-3.5%, -3.1%)			
	(-4.0%, -3.6%)			
	(-4.5%, -4.1%)			
	(-5.0%, -4.6%)			
	Probability Distribution Range	(-1.0, 3.0)	(-1.0, 3.0)	(-1.0, 3.0)