



EUROPEAN CENTRAL BANK

EUROSYSTEM

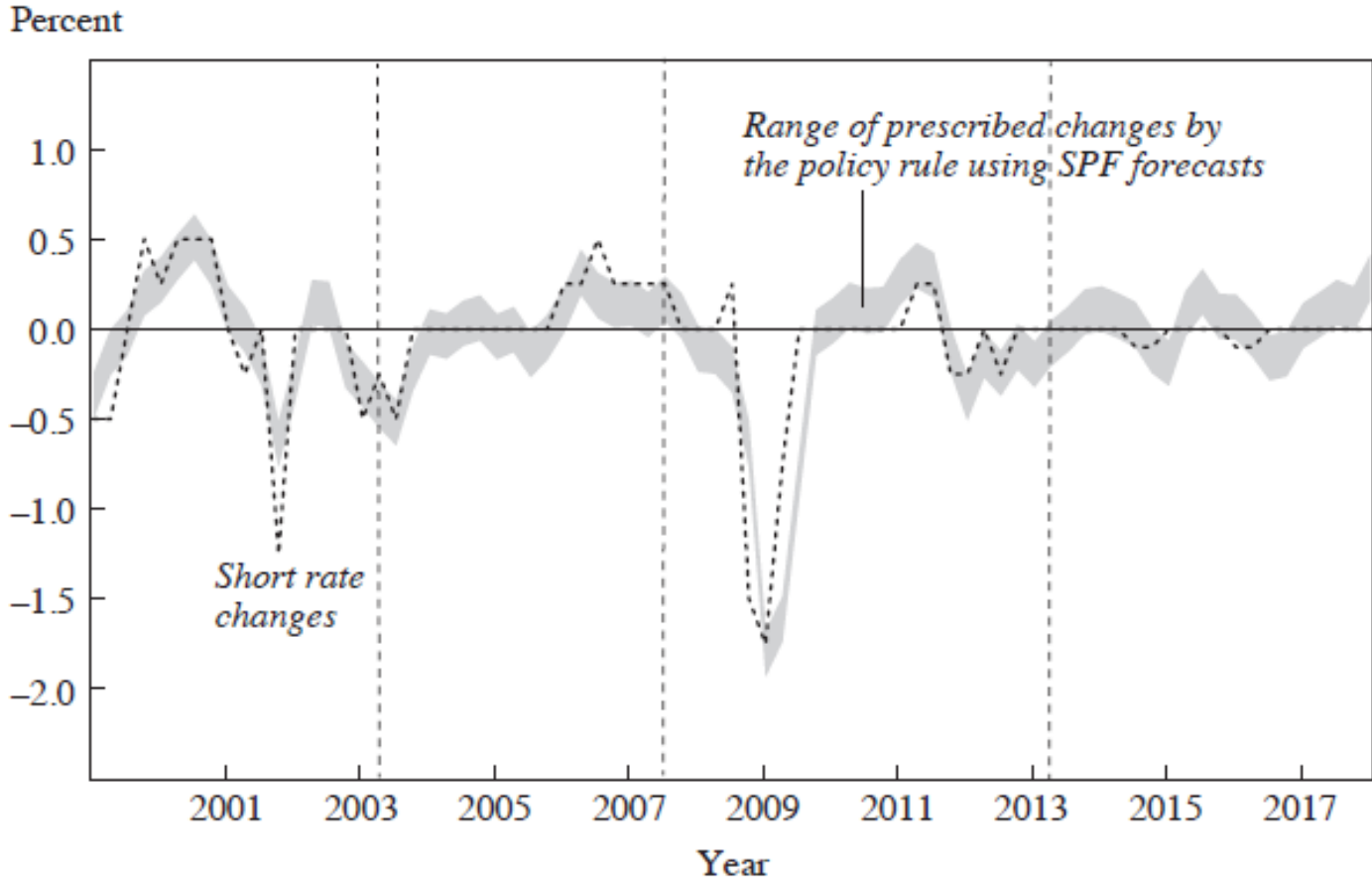
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**Handout for Discussion of
“Monetary Policy Strategy
and its Communication”
by Athanasios Orphanides**

Views expressed are my own and
should not be attributed to the ECB

Jackson Hole Economic Symposium
Challenges for Monetary Policy
Federal Reserve Bank of Kansas City
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Figure 22. The Orphanides Rule for the Euro Area, 1999–2018^a



Sources: Authors' research; ECB data; ECB Survey of Professional Forecasters (SPF); European Commission.

a. This estimation uses the SPF findings, as given by Orphanides and Wieland (2013). The short rate changes combine the time series of the changes in the main refinancing operations rate up to 2008:Q3 with the changes in the deposit facility rate from 2008:Q4 onward. Changes are mid-quarter-on-quarter changes. The most recent observation is for 2018:Q1.

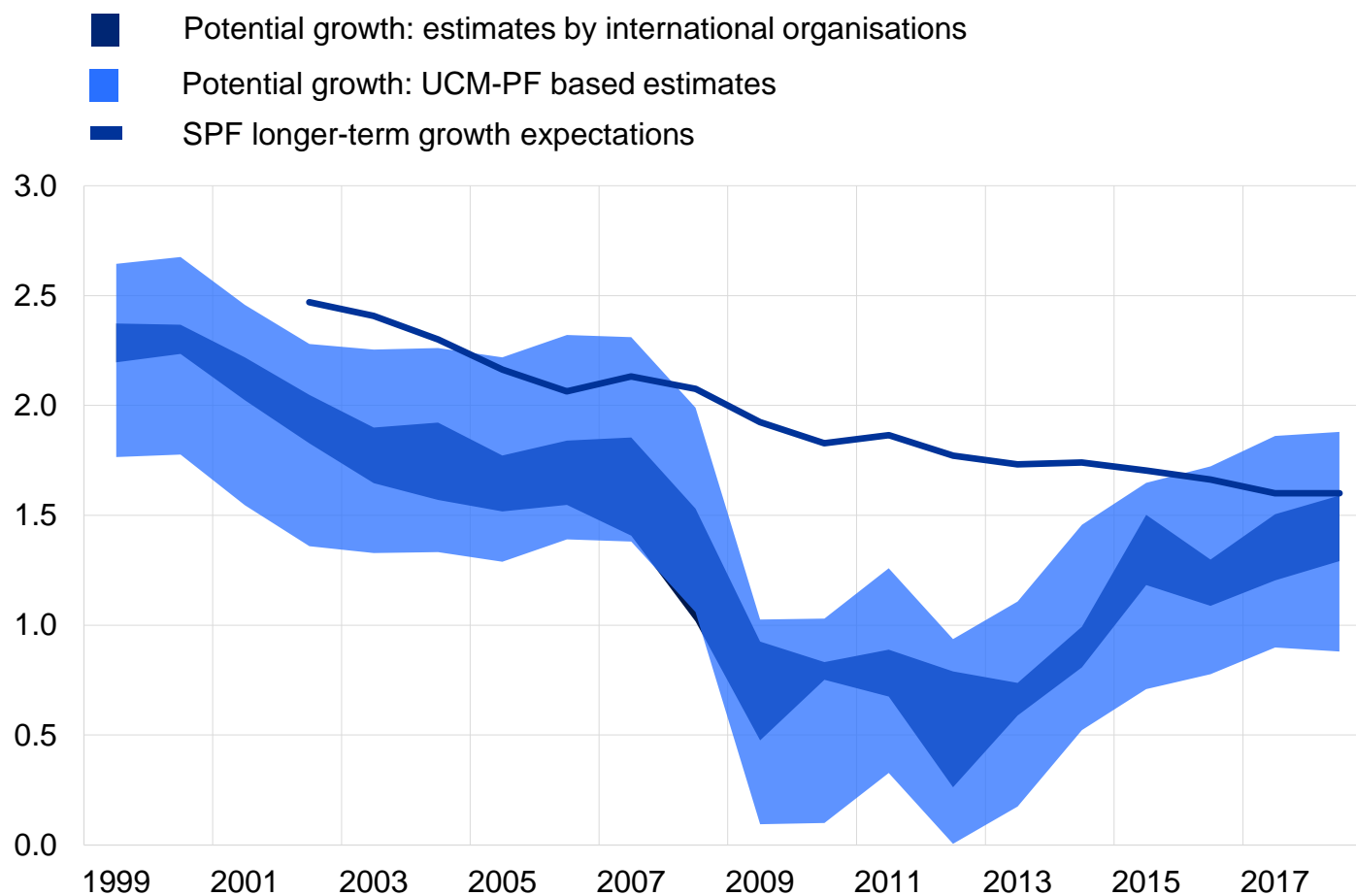
Table 1. Regression Results for the Orphanides Rule^a

<i>Y = short rate changes</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ECB inflation projection	0.34*** (0.09)	0.30** (0.13)	0.20 (0.19)	0.37*** (0.14)	0.33** (0.14)	0.17 (0.13)	0.36*** (0.09)
ECB growth projections	0.37*** (0.08)	0.43*** (0.09)	0.54*** (0.20)	0.36*** (0.08)	0.37*** (0.08)	0.52*** (0.14)	0.40*** (0.09)
SPF inflation projection			0.27 (0.22)				
SPF growth projections			-0.17 (0.19)				
ECB core inflation projection				-0.073 (0.16)			
Interaction positive inflation deviation					0.27 (0.17)	0.50*** (0.18)	
Interaction positive growth deviation						-0.46*** (0.17)	
Change in credit growth							-0.07 (0.07)
Positive inflation deviation					-0.10 (0.08)	-0.15** (0.07)	
Positive growth deviation						0.02 (0.08)	
Constant	-0.62*** (0.164)	-0.52** (0.26)	-0.85*** (0.14)	-0.56*** (0.16)	-0.60** (0.22)	-0.22 (0.20)	-0.65*** (0.16)
Inflation target	1.81	1.75	1.78	1.85			1.82
Observations	77	54	77	77	77	77	77
Adjusted R ²	0.52	0.58	0.54	0.52	0.53	0.57	0.53

Sources: Authors' research; ECB and European Commission data.

a. Robust standard errors are in parentheses. Statistical significance is shown for *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$. Coefficients are rounded to the second decimal. The dependent variable, short rate changes, combines the time series of the changes in the Main Refinancing Operations Rate up to 2008:Q3 with the changes in the Deposit Facility Rate from 2008:Q4 onward. Changes are quarter-on-quarter changes of the implementation dates of monetary policy decisions falling in the last month of the quarter. The sample period is 1999:Q1 to 2018:Q1. For column 2, the sample is shortened to end in 2012:Q2. The variable Inflation target is equal to minus the constant over the estimated inflation coefficient. The variables ECB inflation projections, ECB core inflation projections, and ECB growth projections refer to 1-year-ahead inflation projections for the Harmonised Index of Consumer Prices (HICP), the 1-year-ahead HICP inflation excluding food and energy projections, and the 1-year-ahead GDP growth projections in deviation from potential growth of the ECB/Eurosystem staff projections, respectively. The variables SPF inflation projections and SPF growth projections refer to 1-year-ahead HICP inflation projections and 1-year-ahead GDP growth projections in deviation from potential growth of the ECB Survey of Professional Forecasters, respectively. Positive inflation deviation and positive growth deviation refer to dummies equal to 1 if projected inflation is greater than the predicted inflation target of 1.81, and if projected GDP growth is greater than potential output, respectively. Interaction positive inflation deviation and interaction positive growth deviation are terms interacting ECB inflation projections and ECB growth projections with the dummy variables positive inflation deviation and positive growth deviations, respectively. Change in credit growth is the change in the year-on-year growth rate of credit to households and nonfinancial corporations.

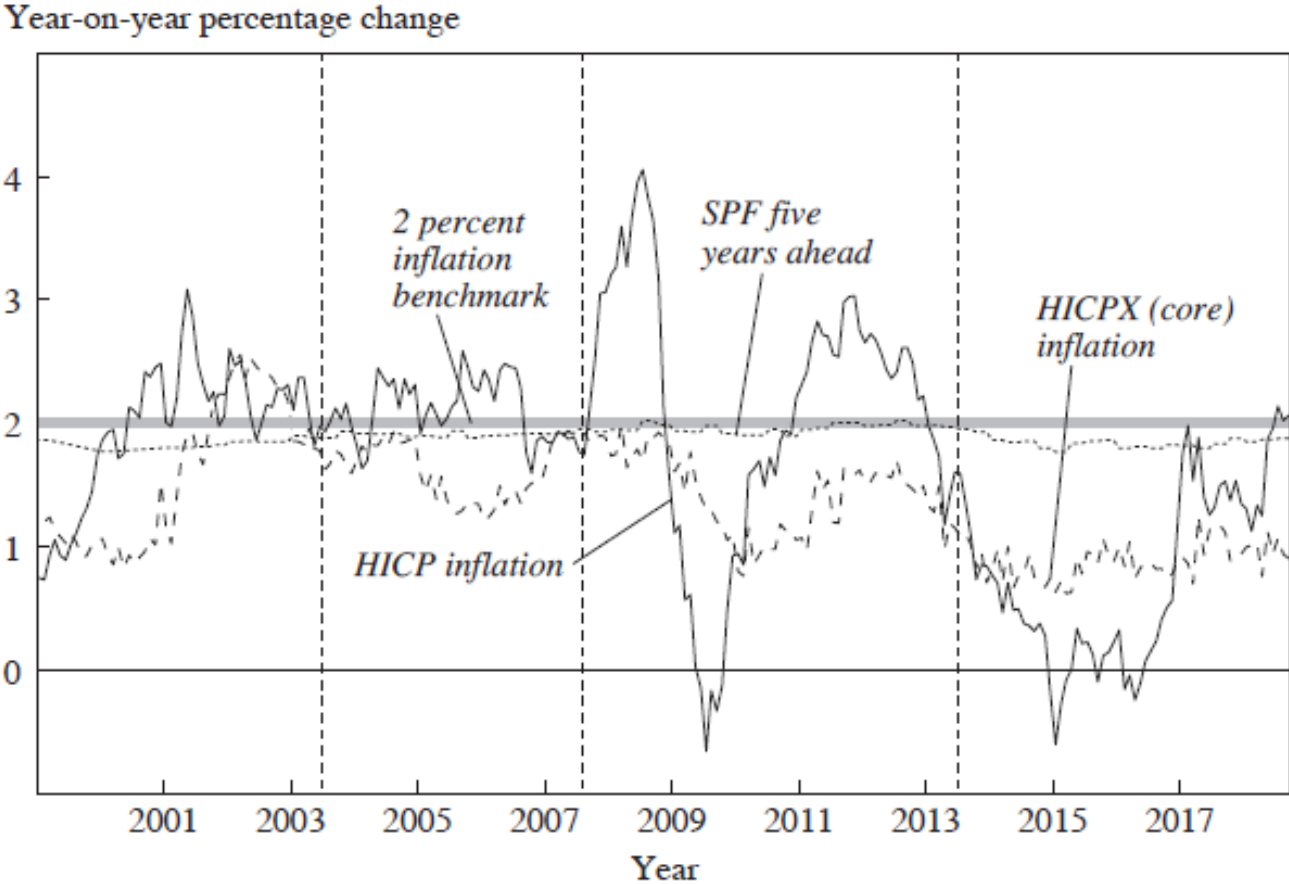
Estimates of potential growth in the euro area



Sources: European Commission, IMF, OECD, ECB.

Notes: Dark-blue range reflects the range of estimates of euro area potential growth by the European Commission, IMF and OECD. Light-blue range corresponds to a two-standard deviation confidence band around estimated potential growth from an Unobservable Components Model with a Production Function (UCM-PF). The solid line is the 5-year ahead growth forecast from the Survey of Professional Forecasters (SPF).

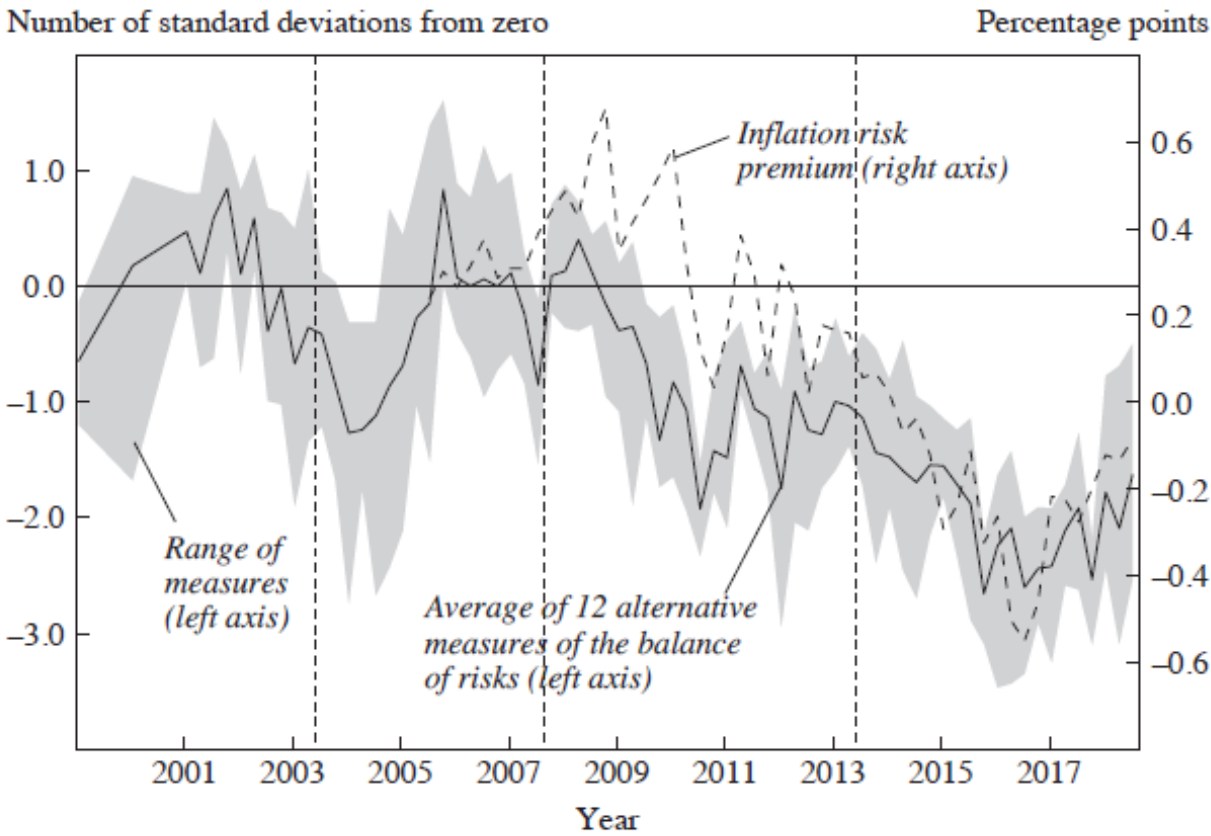
Figure 6. The Euro Area's Headline Inflation, Core Inflation, and Longer-Term Inflation Expectations, 1999–2018^a



Sources: ECB data; Survey of Professional Forecasters (SPF).

a. HICP = Harmonised Index of Consumer Prices; HICPX refers to HICP excluding energy and food. SPF five years ahead = the average HICP inflation rate expected by the respondents to the SPF. The most recent observation is for September 2018.

Figure 20. The Survey-Based Balance of Longer-Term Inflation Risks and the Inflation Risk Premium in the Euro Area, 1999–2018^a



Sources: ECB data; Joslin, Singleton, and Zhu (2011); Camba-Méndez and Werner (2017); ECB (2017a).

a. This figure shows the average and the range of 12 different measures of the third moment (skew) of 5-year-ahead inflation expectations from the ECB Survey of Professional Forecasters. The Inflation Risk Premium decomposition is based on an affine term structure model and fitted to the euro area zero-coupon, inflation-linked swap curve. The estimation method follows Joslin, Singleton, and Zhu (2011); for details, see Camba-Méndez and Werner (2017). For further information, see ECB (2017a). The most recent observation is for August 1, 2018.