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Growth at Risk: Concept and Application in IMF Country Surveillance

Ananthakrishnan Prasad, Selim Elekdag, Phakawa Jeasakul, Romain Lafarguette,
Adrian Alter, Alan Xiaochen Feng, and Changchun Wang

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I N T E R N A T I O N A L M O N E T A R Y F U N D

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Monetary and Capital Markets Department

Growth at Risk: Concept and Application in IMF Country Surveillance

Prepared by Ananthakrishnan Prasad, Selim Elekdag, Phakawa Jeasakul, Romain Lafarguette, Adrian Alter, Alan Xiaochen Feng, and Changchun Wang¹

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Abstract

The growth-at-risk (GaR) framework links current macrofinancial conditions to the distribution of future growth. Its main strength is its ability to assess the entire distribution of future GDP growth (in contrast to point forecasts), quantify macrofinancial risks in terms of growth, and monitor the evolution of risks to economic activity over time. By using GaR analysis, policymakers can quantify the likelihood of risk scenarios, which would serve as a basis for preemptive action. This paper offers practical guidance on how to conduct GaR analysis and draws lessons from country case studies. It also discusses an Excel-based GaR tool developed to support the IMF's bilateral surveillance efforts.

JEL Classification Numbers: E1, E17, F44, G1

Keywords: downside risk, macrofinancial linkages, financial stability

¹ The Growth-at-Risk Excel/Python-based tool was developed by Romain Lafarguette and Changchun Wang, in collaboration with Aquiles Farias, Kei Moriya, and Heesun Kiem (all of the IMF's Information Technology Department); the tool and the codes are available on Github (<https://github.com/IMFGAR/GaR>) along with proper documentation, user-guide and technical appendix. We thank Tobias Adrian, James Morsink, Sheheryar Malik, Raphael Espinoza, and participants in the IMF AFR, APD, EUR, FAD, MCD, MCM, SPR, and WHD department seminars for their insightful suggestions. We also thank Katya Botsu and Elizabeth Mahoney for their excellent editorial and research assistance, respectively.

Author email addresses: APrasad@imf.org, SElekdog@imf.org, PJeasakul@imf.org,
RLafarguette@imf.org, AAAlter@imf.org, XFeng@imf.org, CWang2@imf.org

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