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AUTHOR OR EDITOR

[Luis Fernando Melo, Fabio H. Nieto, Mario Andrés Ramos](#)

AUTHORS AND/OR EDITORS

[Nieto, Fabio H.](#)

In this paper, we propose a methodology for calculating a leading index of the economic activity based

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on a modification of Stock and Watson's (1989, 1991, 1992) approach. We use Kalman filter techniques for estimating the state space representation of the leading index model. The methodology is applied to the Colombian economy and the resulting index leads six months the Melo et al. (2002) coincident index (in semi-annual growth rates). As an intermediate result, we also develop an updating process of the coincident index.