
[Download](#)

Keep in mind

The series Working Papers on Economics is published by the Office for Economic Studies at the *Banco de la República* (Central Bank of Colombia). It contributes to the dissemination and promotion of the work by researchers from the institution. This series is indexed at Research Papers in Economics (RePEc).

On multiple occasions, these works have been the result of collaborative work with individuals from other national or international institutions. The works published are provisional, and their authors are fully responsible for the opinions expressed in them, as well as for possible mistakes. The opinions expressed herein are those of the authors and do not necessarily reflect the views of Banco de la República or its Board of Directors.

AUTHORS AND/OR EDITORS

[León-Rincón, Carlos Eduardo Pérez-Villalobos, Jhonatan](#)

Publication Date:
Friday, 1 of February 2013

Network analysis has been applied to identify systemically important financial institutions after the 2008 financial crisis. Such applications have stressed the importance of centrality within the too-connected-to-fail concept.

Yet, despite their well-known importance for financial stability, financial market infrastructures' centrality has not been equally covered by literature. Some particularities of strictly hierarchical (i.e. directed and acyclic) networks may explain the inconvenience arising from using basic metrics of centrality, and may explain why assessing centrality has been limited to financial institutions' case.

This paper addresses the assessment of systemic importance for Colombian financial infrastructures by means of the estimation of authority centrality and hub centrality. Their particular advantage consists of assessing importance as the mutually reinforcing centrality arising from nodes pointing to other nodes (i.e. hubs) and from nodes being pointed-to by other nodes (i.e. authorities), even in the case of directed and acyclic networks.

Results are valuable since they quantitatively support financial authorities' efforts to (i) identify systemically important financial infrastructures under the too-connected-to-fail concept; (ii) focus the intensity of oversight, supervision and regulation where the infrastructure-related systemic impact is the greatest; and (iii) enhance their policy and decision-making capabilities.

The opinions and statements are the sole responsibility of the authors and do not necessarily represent neither those of Banco de la República nor of its Board of Directors. Results are illustrative; they may not be used to infer credit quality or to make any type of assessment for any financial infrastructure.