

---

[Working Paper No. 877](#)

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*). 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.

AUTHOR OR EDITOR

Freddy Cepeda

Fabio Ortega

This paper presents a methodology to estimate the intraday liquidity that systemically important entities (SIE) need to fulfill all its obligations in a timely fashion, when a simulated failure-to-pay from its main liquidity supplier by discretionary concepts of payment occurs. Using the Bank of Finland's simulator and the fund transfer data from Colombian large value payment system, we achieve a dynamic estimation measuring three types of effects (direct, second round and feedback). The results validate the existence of a non-linear relationship between the initial failure-to-pay of a specific institution and

---

extended failures-to-pay to the rest of system. An Intraday Liquidity Sufficiency Index is proposed to quantify the average amount of additional liquidity needed to fulfill timely all SIE's obligations without generating second-round effects. Our methodology and recommendations contribute to the international discussion on management intraday liquidity risk, to efficiency and security of the payment system, and ultimately to financial stability.

The opinions expressed here do not necessarily correspond neither to the Banco de la República nor its Board of Directors.