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DELTA-METHOD INFERENCE FOR A CLASS OF SET-IDENTIFIED SVARS¹BULAT GAFAROV², MATTHIAS MEIER³ AND JOSÉ LUIS MONTIEL OLEA⁴

We study vector autoregressions that impose equality and/or inequality restrictions to set-identify the dynamic responses to a single structural shock. We make three contributions. First, we present an algorithm to compute the largest and smallest value that an impulse-response coefficient can attain over its identified set. Second, we provide conditions under which these largest and smallest values are directionally differentiable functions of the model's reduced-form parameters. Third, we propose a delta-method approach to conduct inference about the structural impulse-response coefficients. We use our results to assess the effects of the announcement of the Quantitative Easing program in August 2010. (JEL-Classification: C1, C32, E47).

KEYWORDS: Set-Identification, Sign Restrictions, SVAR, Directional Differentiability, Unconventional Monetary Policy.

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