
Measuring peer effects in the Brazilian school system

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Using the identification strategy proposed by Graham and Hahn (2005), we estimate the magnitude of classmate effects on math scores using Brazilian data from 2005. In addition, we provide a detailed discussion about the identification of endogenous peer effects in the linear in means models. Our results show that both peer characteristics (exogenous peer effects) – like race, socioeconomic status and gender – and peer actions (endogenous peer effects) are important determinants of students' outcomes in the fifth grade of elementary school. Our estimates of endogenous peer effects are about 0.008 of 1 SD of math test scores, which can be interpreted as evidence of a so-called 'conformist' individual behaviour, under which students face large costs to exert effort levels that are distant from what is believed to be the norm in the classroom. Those estimates of endogenous peer effects imply a social multiplier of about 1.67.

Keywords: education; Brazilian school system; peer effects; social multiplier; social interactions

JEL Classification: I21; J24

I. Introduction

Although most researchers in education would agree that peers' attributes and peers' behaviour in a classroom affect students' achievement, finding evidence of the magnitude of this effect is a complicated task. Social interactions, or peer effects, are not the only channel for explaining the excess variation in student outcomes between classrooms that is not justified by differences in student composition. Indeed, the difficulty in identifying peer effects from competing factors is not

restricted to educational settings. The more general abstract problem has been raised by Manski (1993), who showed that in a very simple linear framework one would need to rely on strong assumptions to identify peer effects. Nonetheless, in the past 20 years, the education literature has focused on a growing interest in more deeply understanding, both theoretically and empirically, within-class and within-school peer effects. This is reflected in the works of Arnott and Rowse (1987), Hoxby (2000), Hoxby and Weingarth (2006), Lavy *et al.* (2008), Sacerdote (2001),

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