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Parental income and child health in Japan ☆

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ABSTRACT

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Previous studies have consistently found evidence of an income gradient in health among children in various countries, and studies in Anglo-Saxon countries have found that this gradient increases with child age. Using nationally representative individual-level data, I examine the association between child health and parental income in Japan. Japan has a child poverty rate that is similar to the rate of many countries that have been studied previously, but Japan outperforms those countries on most health indicators. I find that an income gradient exists in child health in Japan, but that it is limited to specific health measures and symptoms, and that it is weaker overall in that respect than the gradient found in other countries or among Japanese adults. Moreover, I find no evidence that the gradient increases with child age. The fact that children in low-income families have relatively modest and non-accumulating health disadvantages may contribute to the overall health of the Japanese population. Nevertheless, there is a statistically significant negative association between parental income and the incidences of asthma, hearing problems, and dental symptoms in children, implying that future efforts to improve the health of underprivileged children should focus on the prevention and control of these diseases. *J. Japanese Int. Economies* **xxx** (xx) (2014) xxx–xxx.

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1. Introduction

The literature has established that there is a strong positive association between socioeconomic status (SES) and health. The economic literature has offered three explanations for this gradient: a causal effect of SES on health, a causal effect of health on SES, or a third factor, such as innate abilities that affect both SES and health (Fuchs, 2004). To better understand the complex relationship between SES and health, Case et al. (2002) conducted a seminal study in which they examined the relationship between parental income and child health. A focus on the effect of parental income on child health offers the advantage of reducing concerns about reverse causality. Based on US data, these authors found that an income gradient existed from early childhood, and that the gradient grew as children aged. Replication studies in Canada (Currie and Stabile, 2003), the UK (Case et al., 2008), and Australia (Khanam et al., 2009) also found evidence of a positive and increasing income gradient in child health, although the findings from the UK were mixed, especially for older children (Apouey and Geoffard, 2013; Currie et al., 2007; Propper et al., 2007; West and Sweeting, 2004). Nevertheless, to date, evidence in support of an increasing gradient is limited to Anglo-Saxon countries. Studies from Germany (Reinhold and Jürges, 2012) and Indonesia (Cameron and Williams, 2009) found a positive income gradient for child health, but they did not find that the gradient increased. The finding from Germany is particularly notable because Germany is similar to the aforementioned Anglo-Saxon countries in terms of per-capita GDP.

This study examines the association between parental income and child health in Japan. Japan is similar to the aforementioned Anglo-Saxon countries in terms of per-capita GDP and income inequality, and prior studies indicate that the income gradient in health increases with income inequality (Deaton, 1999, 2003). In the late 2000s, the relative poverty rate among children in Japan was similar to the child poverty rates in Australia, Canada, and the UK, but it was significantly higher than the rate in Germany, as shown in Table 1. Table 1 also shows that the change in the poverty rate among children between the mid-1990s and the late 2000s was higher in Japan than in the previously studied countries.[1] Japan differs significantly from the previously studied countries, however, in its high rankings for most health indicators. Indeed, at least until it was hit by the Tohoku earthquake in 2011, Japan had the highest longevity in the world. Japan also has one of the lowest infant mortality rates in the world and the second-lowest obesity rate among the OECD countries (OECD, 2011; WHO, 2012).

The literature has found that income redistribution has little effect in reducing poverty in the Japanese non-elderly population (d'Ercole, 2006; Jones, 2007; Kitamura and Miyazaki, 2012; Oshio and Urakawa, 2008; Whiteford and Adema, 2007). In particular, Japan is the only OECD country in which taxes and transfers have consistently increased the child poverty rate since the 1980s (Whiteford and Adema, 2007).[2] Until recently, little attention has been paid to child poverty in Japan, and policy development has been slow. Japan has universal health insurance, but unlike Australia, Canada, Germany and the UK, out-of-pocket health care expenses for children are not fully waived. Until the coinsurance rate for children 3 years old or younger was reduced to 20% in 2008, the coinsurance rate was 30% for all individuals younger than 70 years old, although some municipalities and prefectures provide additional subsidies for children's medical expenditures.

At the same time, Japan has unique and long-established school-based programs that may help to reduce socioeconomic disparities in child health. In particular, the law requires that elementary and middle school children receive annual medical examinations from physicians during school time. In addition, inexpensive school meals that meet strict nutritional standards are provided at approximately 98% of elementary schools and 77% of middle schools (MEXT, 2012). For pre-school children from low-income families with two working parents or a single parent, there are licensed (including public) nursery schools that offer free or low-cost care and meet strict quality requirements for staff-

[1] Studies that compare Japan with the rest of the world in terms of income inequality in the 1990s reached different conclusions. According to the OECD (2008), the Gini index and the relative poverty rate in Japan were consistently well above the OECD average from the mid-1980s to the mid-2000s. However, based on Japanese data collected in 1993, the World Bank (2003) found that Japan had one of the lowest levels of income inequality in the world.

[2] Likewise, Oshio and Urakawa (2008) have found that redistribution policies increased the relative poverty rate for the non-elderly Japanese in 1997 and 2003.