

## **Center for Equitable Growth Small Grant Proposal**

**Project title:** “Do Cash Transfers to the Poor Reduce Low Birth Weight? Evidence from Matched Vital Statistics, Social Security, and Program Administrative Data”

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*This project proposes to estimate the impact on low birthweight of a poverty relief program, the Uruguayan Plan de Atencion Nacional a la Emergencia Social, or PANES. PANES provided beneficiaries with a sizeable cash transfer on the order of 50% of pretreatment self-reported income for approximately two years between 2005 and 2007.*

Birthweight is a major predictor of health conditions and economic outcomes in later life stages. Recent evidence from economics shows significant negative effects of low birthweight - defined by the World Health Organization as weight under 2,500 grams - on both short run health outcomes and long run economic and non-economic outcomes, such as height, IQ, earnings, education and even birthweight of the next generation (Almond et al, 2005, Behrman and Rosenzweig, 2004, Black et al., 2007, Currie and Moretti, 2007, Currie, 2009, Royer, 2009, Almond and Currie, 2011).

If low birthweight is associated with worse future outcomes, there is a potential economic gain from reducing its incidence (Behrman, 1996, Alderman and Behrman, 2006) and possibly a rationale for government intervention if parents are credit constrained, lack health knowledge, or they do not fully internalize the wellbeing of their children, perhaps due to intergenerational commitment problems. Early childhood interventions might also prove particularly cost-effective since they have presumably higher rates of return than later interventions, due to their benefits extending over a longer time span and potential complementarities with other inputs (Heckman, 1995, 2000). There remains disagreement as to whether cash in hand during pregnancy or cash welfare programs that are unrestricted (i.e. not targeted directly to improving the nutritional or health status of pregnant women) can be effective in addressing the incidence of low birthweight.

While there is relatively little evidence on the effects of cash in hand on birth outcomes, there is some evidence from the U.S. that targeted programs aimed directly to improving pregnant women’s health and nutrition can have large positive effects on infants’ health. There is also evidence that in-kind transfers have the potential to affect birth outcomes, although one should not automatically presume that cash and in-kind transfers have the same effect on birth outcomes, as the former are more likely than the latter to increase food consumption, and hence the nutritional status of pregnant women, if households food consumption is rationed.

Relative to existing studies that focus on the effect of welfare programs on birth outcomes, our proposed project offers several advantages. Beyond focusing on a cash transfer program, we are able to link administrative data on program participation for women of childbearing age to vital statistics for the period 2003 (hence two years before the start of the program) to 2007 using mothers’ unique Uruguayan national identity number. This allows us to study the effect of the program at the individual level, identify pre-trends and potentially compare siblings’ outcomes. The data also allow us to cover the universe of the country’s births, an endeavor that is rarely possible in other settings, including the U.S., where such data is simply unavailable to our knowledge. Most U.S. studies use aggregated data.

Second, because assignment to the Uruguay program was quasi-random, with a remarkably clean discontinuity in eligibility at a predetermined predicted income score, we will be able to credibly assess the impact of the program on low birthweight in isolation from potential confounding factors that might affect simultaneously both birthweight and program

receipt. Third, the richness of the available data will allow us to investigate a larger set of potential channels than is usually possible. In particular, we will be able to further match our data to social security data that include information on labor market participation, earnings and other government transfers for all household members.

To estimate program impacts, we will first compare the difference in the incidence of low birthweight between infants of program beneficiaries born before and after program participation. Because different households entered the program at different points in time, we can use a simple difference in difference estimator that allows us to control for generalized trends in low birthweight that might be correlated with trends in program take-up. Because we will obtain data on repeated births from the same mothers, we can refine this strategy by comparing treated and untreated siblings (including mother fixed effects), hence allowing us to control for unobservable time invariant household and mother characteristics. Because program eligibility depended on a discontinuous function of a baseline predicted income score, we will also be able to control for a continuous function of such score and estimate the effect of the program in the neighborhood of the eligibility threshold, using a regression discontinuity design. In the second part of the project, we also plan to investigate the channels behind any estimated effects, including prenatal care utilization, gestational length, maternal labor force involvement, receipt of other social benefits, and compositional changes in fertility.

We feel that the project is a good “fit” for the Center for Equitable Growth. In particular, we will explore whether a social assistance program for the poor has measurable effects on the health of their children, a key issue in understanding whether public policies might help reduce the intergenerational transmission of poverty. The latter has a direct impact on overall levels of societal inequality. The Uruguayan setting is relevant for the U.S., in that overall infant mortality and low birth weight rates in Uruguay are low by Latin American standards, and thus not very different from those found among poor populations in the U.S. The unique data sets that we have access to in Uruguay, including the matched universes of vital statistics, social security records, and program administrative records, provides a better data setting than is available in the U.S. to answer this important question.