

in brief...

# Blackout babies: the impact of power cuts on fertility

What are the effects on national fertility of the frequent and sometimes protracted losses of electricity that are common in many developing countries? **Amar Shanghavi** and colleagues look at Colombia's experience of a nationwide blackout 20 years ago.



The idea that blackouts might lead to baby booms has been a subject of contention for a long time. It first came to prominence in popular culture after the great New York blackout of 1965, which left over 30 million people without electricity for 13 hours. But a study of the event's consequences concluded that there was no significant impact on fertility nine months later, as a result of which the president of the Population Association of America described the theory as an 'urban legend'.

Unlike the New York blackout or indeed most power outages in the developed world, nationwide blackouts are a recurring feature of developing countries. As an example of the scale, 600 million Indians were affected by a two-day blackout in July 2012. And many countries in Africa experience rolling blackouts that last weeks if not months and for several hours a day.

The impact of power outages on fertility is an important policy issue. For example, barriers of access to family planning may translate a temporary increase in fertility into a permanent increase in the population. In addition, if a woman is at a critical stage of life, say in her teens or early adulthood, having an unintended birth could damage her educational attainment, her career development and even her romantic relationships. This could lead to a young woman being 'out of sync' with her peers, an extra challenge above and beyond becoming a mother at an early age.

The scale and scope of power outages in developing countries provide the perfect natural experiment to test whether there is a link between electricity rationing and fertility. Our research makes two contributions to this debate. First, we provide evidence that there is a causal effect of power outages on both short- and long-run fertility. We examine a particular blackout in Colombia caused by the El Niño droughts in 1992, which led to a period of almost 12 months of daily rationing of electricity.

The blackout has some appealing features for the purpose of analysis: because it was caused by an unforeseen climate change phenomenon, it was completely unexpected; it lasted for one year, long enough for sufficient statistical power to detect the impact on fertility and long-run family size; and since it affected the whole country, it was very clearly delimited in time and space.

## Young women who became mothers after the blackout had worse outcomes in later life

## A rolling blackout in Colombia in the early 1990s led to a rise in unplanned births

To identify the effect of the rolling blackout, we construct two novel datasets. First, we use a sample of the 2005 population census of Colombia to construct retrospective birth histories linking mothers to children within the household. We combine this dataset with municipality-level variation in the intensity of lights at night as measured by satellite images for the period 1992-93.

We document an increase of 0.005 percentage points in the probability of having a child in 1993. When evaluated at the average probability of having a child in any given year, this results in an increase in the chance of women giving birth by 4%. This implies that if the whole of Colombia were to lose power for one year, an additional 27,000 children would be born.

We also identify heterogeneous effects by age cohorts: almost all of the effect of increased fertility was among women between the ages of 15 and 30 in 1992. This fertility effect persists: a quarter of women who gave birth following the blackout had a higher total fertility 13 years later than comparable women who had not become mothers then.

It is an open question how unplanned pregnancies affect mothers' future lives. The second contribution of our research is to use the intensity of the blackout to study the effect of the change in fertility on the later economic outcomes of young mothers. We find evidence that women who had an unplanned birth following the blackout and could not adjust their lifetime fertility are twice as likely to be single mothers as comparable women who did not have 'blackout babies'. They are also much less likely to have completed a university degree.

These findings suggest that there have been significant and long-term negative consequences of the blackout for some young women in Colombia. Having found this for one country, we need further research to see if the effect holds elsewhere in the world, particularly where power outages are a regular occurrence.

This article summarises 'An Urban Legend?! Power Rationing, Fertility and its Effects on Mothers' by Thiemo Fetzer, Oliver Pardo and Amar Shanghavi, CEP Discussion Paper No. 1247 (<http://cep.lse.ac.uk/pubs/download/dp1247.pdf>).

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