# Population Growth and the Local Provision of Services: The Role of Primary Schools in Portugal

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The shrinking population has led to a debate on the relation between the local provision of services of general interest and the demographic growth of different territories. Primary schools have been a frequent focus of this debate, given the significant number of school closures in recent years, as well as their social, economic, and symbolic importance for local communities. The relationship between primary schools and population growth at the local scale has not been clearly established and is a challenging subject given the potential circular causality between them. This paper analyses this relationship for the mainland municipalities in Portugal between 1999 and 2016, considering three variables – total fertility rates, net migration rates and the number of primary schools – in a panel vector autoregressive (PVAR) model. It was possible to conclude that, although there is a mutual influence between these variables, the impact of school closures on the growth prospect of a municipality is limited. Changes in the number of Primary Schools are positively and, significantly, related to changes in Net Migration Rates in only one of the four-time lags. The same occurs with total fertility rates, where the impact is restricted to the fourth lag. The adjustment of the number of schools to population changes does also not show a very clear pattern. Results mean that the number of primary schools is a limited tool for influencing the fertility or migration rates at the municipal scale. Thus, primary schools play an important role in communities, but changes in their number seem not, by themselves, capable of significantly influencing ongoing trends in population growth. The main goal of policy decisions regarding the provision of primary schools should, therefore, be the quality of life of local communities, and not so much their role in countering depopulation.
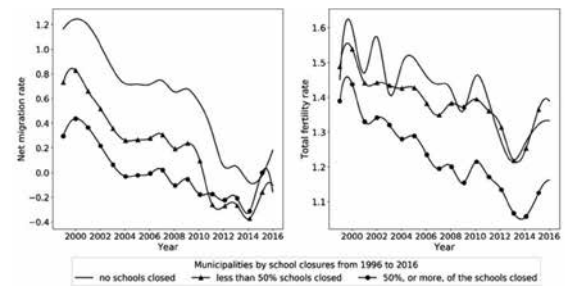


Figure 1 – Total fertility and migration rates by changes in primary schools, 1999–2016 (smoothened). Data Source National Statistical Institute.

Table 1 – Granger causality.

| VAR Granger Causality/Block Exogeneity Wald Tests | | | |
|---|---|---|---|
| **Dependent variable: Primary schools (FD)** | | | |
| Excluded | $\chi^2$ | df | Prob. |
| Total fertility rate | 8.2115 | 4 | 0.0842 |
| Net migration rate | 20.901 | 4 | 0.0003 |
| **Dependent variable: Total fertility rate** | | | |
| Excluded | $\chi^2$ | df | Prob. |
| Primary schools (FD) | 43.889 | 4 | 0.0000 |
| Net migration rate | 27.934 | 4 | 0.0000 |
| All | 84.002 | 8 | 0.0000 |
| **Dependent variable: Net migration rate** | | | |
| Excluded | $\chi^2$ | df | Prob. |
| Primary schools (FD) | 33.633 | 4 | 0.0000 |
| Total fertility rate | 12.013 | 4 | 0.0173 |
| All | 44.059 | 8 | 0.0000 |

Notes: No. of obs = 3614; No. of panels = 278; Ave. no. of T = 18.000.
Sample: 1999-2016; FD = forward orthogonal deviation was applied.