Child Care Deserts and Educational Inequality: an Equilibrium Analysis of the Preschool Market in Pennsylvania*

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Abstract

Evidence of the benefits of high-quality preschool programs for disadvantaged children has fueled recent proposals for massive investments in Early Childhood Education (ECE). A successful scale-up of these programs requires creating incentives for providers to operate in low-income neighborhoods and to invest in high-quality without pricing disadvantaged parents out of the formal market. This paper develops a dynamic model of the preschool market to evaluate the effectiveness of ECE policies at creating these incentives. On the demand side, heterogeneous families trade-off price, quality, and distance in choosing whether and to which center to send their child. On the supply side, providers decide whether to enter, remain open and which quality to offer, and compete on price to attract parents. I estimate this model using data on the universe of child-care centers in Pennsylvania. The estimated model highlights the importance of considering providers' dynamic adjustments when designing ECE policies, and yields three main insights. (1) Reducing costs faced by parents is essential to expanding high-quality preschool education to low-income families. I find that removing subsidies for low-income children decreases their enrollment by more than 70% on impact, and 85% after 5 years. (2) Targeted subsidies spillover to non-targeted children. More universal subsidies benefit low-income parents by raising centers' incentives to invest in high-quality. Conversely, removing subsidies to low-income parents reduces access for richer families in the medium-run due to centers' exit. (3) In the absence spatially targeted policies, new centers' entry decisions do not close the ECE access gap, as more educated neighborhoods are more profitable to operate in. Building on these insights, I use the model to design and evaluate the optimal policy for early education expansion.

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