Quota-Based School Desegregation: Impacts on Student Achievement and School Demand

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Extended Abstract

Persistent socioeconomic segregation in schools undermines both equity and collective performance by concentrating disadvantaged pupils in under-resourced institutions. In response, Catalan authorities introduced a quota-based desegregation framework that reserves seats for socioeconomically vulnerable students. Initially piloted in Barcelona in 2019–20 and later expanded region-wide in 2021-22, the policy blends enhanced vulnerability detection with transparent, capacity-adjusted seat assignments. Families retain voluntary choice but receive soft incentives—free materials, meals, and extended reinforcement hours—to accept quota placements.

We assemble an exhaustive panel dataset spanning 2013–2023 that merges school-level capacity and enrollment records with individual student trajectories, demographics, special-needs status, and standardized test scores at ages 12 and 16. We exploit the staggered roll-out across catchment areas and cohorts, applying a continuous-treatment difference-in-differences estimator with school and year fixed effects. Each institution's "treatment dose" is measured as its pre-policy deviation from the area's vulnerable-student quota, allowing us to trace how incremental adjustments reshape peer composition and outcomes.

Our findings demonstrate substantial improvements in both identification and integration of vulnerable pupils. Schools below their target quotas increased vulnerable intake, while those above reduced it accordingly. Weighted dissimilarity indices declined, confirming marked desegregation.

On the schooling demand side, we observe modest avoidance responses: schools facing the largest mandated increases experienced enrollment declines. In contrast, institutions already enrolling high shares of vulnerable students saw stable demand, indicating heterogeneous parental preferences. These nuances underscore the need to monitor demand dynamics and consider complementary measures to sustain broad-based acceptance.

Catalonia's quota-based integration offers the first causal evidence from a European context that capacity-weighted admission quotas can meaningfully reduce school segregation. The combination of robust detection, transparent seat allocation, and supportive incentives presents a replicable model for equity-oriented reforms. Future research will extend these insights through educational outcomes and structural modeling of school choice and long-term labor-market outcomes, informing scalable strategies to reconcile equity, diversity, and parental agency in education systems worldwide.