

Subsidized Housing in the Developing World: Evidence from South Africa

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Motivation

- ▶ Rapid Urbanization of the developing world during the past two decades.
 - ▶ Africa's urban population doubled between 1995 and 2015.
- ▶ Significant portion of new city-dwellers live in slums.
 - ▶ Africa's estimated slum population also doubled in 1995-2015.
- ▶ Disagreement on whether slum-dwellers are in a transitory phase (Glaeser, 2011) or stuck in poverty traps (Marx, 2013).
- ▶ Regardless, slum living conditions remain a concern:
 - ▶ inadequate living space
 - ▶ poor sanitation and water access
 - ▶ high crime levels
 - ▶ low public goods provision

Standard policy portfolio to address these issues:

- ① Changing property rights and land regulations
 - ▶ land titling (Galiani & Shargrodoksy 2010, Field 2007)
 - ▶ reducing minimum lot size (Lall et al. 2007)
- ② On-site slum upgrading/servicing (Galiani et al. 2017, Field and Kremer 2008)
- ③ Subsidized formal housing (Picarelli 2017, Barnhardt et al 2015)

Due to data constraints and lack of experimental variation, evidence for each three remains scarce, with no answer on the best policy mix.

This Paper:

- ▶ Focus on ③ , the provision of subsidized housing.
- ▶ Learn from the South African experience with post-apartheid Reconstruction and Development Programme (RDP):
 - ▶ Since 1994, delivery of ~ 3 million freestanding houses across the country for households with income $< \$R3500$ ($\$260$) per month.
- ▶ Existing literature in development economics treats subsidized housing as relocation programs (e.g. MTO), focusing mainly on outcomes of relocated households.
- ▶ Subsidized housing is also a place-based policy that affects the surrounding neighborhoods. (Diamond & McQuade 2016)
- ▶ These external effects have been studied in the developed world (Diamond & McQuade 2016, Baum-Snow & Marion 2009, Schwartz et al. 2006), but not in a slum mitigation context.

Research Questions

Two “low level” reduced-form questions:

- 1 What is the value of subsidized housing to recipients and surrounding residents? How does this depend on the location and density of delivered units?
- 2 How does the provision of public housing impact the growth of surrounding informal housing?
 - ▶ many developments built near existing informal settlements.
 - ▶ informal backyard shacks are common occurrence.

Going forward:

- 3 Given the costs of construction/land, is this policy successful? Are there potential welfare improvements in changing how/where housing units are delivered?

RDP housing in a nutshell

- ▶ The RDP is a policy framework implemented in 1994 to address several socioeconomic issues under apartheid rule.
- ▶ Includes a large housing subsidy scheme, which provides eligible households the opportunity of owning their first house.
- ▶ Eligibility is based on citizenship, marital status and income.
- ▶ Program recipients receive a one-off capital subsidy (the house) at very low or no cost.
- ▶ Large excess demand; allocation process loosely regulated by various priority systems and wait lists, with many noted cases of corruption.
- ▶ Supply is planned by municipal and provincial housing departments, construction is outsourced to private developers, with constraints on costs per unit, services access, and rooms/lot sizes.

RDP housing as a relocation program

Previous work has examined RDP housing as a relocation program, tracking households that move from slums into RDP housing. Results are inconsistent.

Picarelli, 2017:

- ▶ Panel Survey 2008-2012, 723 household living in 6 largest metros
- ▶ Fuzzy RD using \$R3500 threshold for eligibility
- ▶ RDP recipient households, on average, are displaced further away from the CDB, and reduce their total labor supply upon receiving their house.

Franklin, 2015:

- ▶ Panel Survey 2002-2009, 1097 households in Cape Town area
- ▶ RDP recipient households report increased earnings, driven by higher female employment rate.

RDP as a place-based policy

- ▶ RDP houses are usually built as part of extensive residential developments, with considerable heterogeneity in location and density.
- ▶ Their effect may extend well beyond the program recipients, affecting location decisions of other households and the construction decisions of private developers.
- ▶ Quantifying these spillover effects is important for policy evaluation.

RDP as a place-based policy



Figure: RDP properties surrounding Cape Town

Deeds data:

- ▶ Universe of housing transactions recorded during 2004-2012 in all affordable areas¹ across the country. ($\sim 1.2\text{M}$ transactions)
- ▶ Exact geographic location of traded property, but limited information on characteristics other than price and lot size.
- ▶ RDP transactions identifiable by filtering on Seller Name, price and lot size ($\sim 400\text{K}$ transactions)

¹working on getting the precise geographic definition

Buildings inventory data:

- ▶ 2 waves - 2001 and 2012 - of exhaustive building census based on satellite imagery, covering the entire province of Gauteng (contains Johannesburg and Pretoria)².
- ▶ building stock differentiable by various categories: residential, commercial, industrial, etc.
- ▶ within residential, ability to differentiate formal from informal housing, including backyard shacks.

²working on obtaining more coverage

Census data:

- ▶ Full national coverage of the 2001 and 2011 census, at the small area level (170 households per small area, on average)
- ▶ Basic information on demographics, employment, income, education and dwelling characteristics.

Goals and Next Steps:

- ① Estimate local impact of RDP construction on property values, answer research question ① .
 - ▶ In absence of convincing quasi-experimental variation (e.g. some cute IV for RDP construction), implement identification strategy akin to Diamond & McQuade: generalized diff-in-diff relying on high geographic resolution to control for unobserved neighborhood characteristics.
 - ▶ Use RDP properties resold privately to infer direct value of subsidized houses to program beneficiaries.
- ② Utilize buildings censuses to track changes in the informal housing stock, answer research question ② .
 - ▶ Again, identification will be tricky here.
- ③ Provided I reasonably achieve ① and ② , develop a theoretical framework to map the obtained reduced-form estimates into welfare effects, answer research question ③ .
 - ▶ draw from the model in Diamond & McQuade (2016), or something along the lines of Busso, Gregory and Kline (2013)