Do Rural Banks Matter That Much?

Burgess and Pande (2005) Reconsidered

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Introduction

Why is it important?

- We replicate Burgess and Pande (American Economic Review, 2005, 95 (3), 780-795), one of the most influential papers supporting the view that easier access to credit and saving facilities helps decrease poverty.

- By the mid of 2020, this paper collected more than 1300 citations according to Google Scholar, with over 400 of them within the last three years, indicating an ongoing interest in their research.

- It has been acknowledged in several policy publications (i.e., Claessens and Feijen, 2007; Honohan and Beck, 2007; Jahan and McDonald, 2011) and mentioned in the Handbook of Development Economics (Rodrik & Rosenzweig, 2010).

Introduction

A short summary

Burgess & Pande (2005):

- analyze the effects of the state-led expansion of the banking sector, instrumented by a "new" 1977 bank licensing policy (1:4 rule), on poverty from 1961 to 1990
- find that the bank branch expansion in the rural areas decreased poverty around 17% over the 1961 - 2000 period.

Buliskeria & Baxa (2020)

- discuss a historical evidence suggesting that the 1977 intervention was not unique, new or significantly different from previously existing policies.
- argue that other simultaneous policies also affected the financial sector and poverty.
- this oversight of concurrent policies creates an endogeneity problem as they instrument the rural bank expansion by 1977 structural shift.

Burgess and Pande (2005) Methodology

Initial Financial Development and Bank Branch Expansion

Hypothesis: banks would mainly expand in less financially developed locations from 1977 to 1990, contrary to the other years without the 1:4 rule.

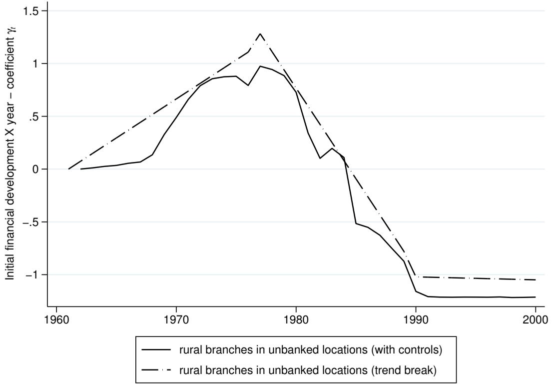
$$B_{it}^{R} = \alpha_i + \beta_t + \sum_{t=1961}^{2000} (B_{i1961} * D_k)\gamma_t + \sum_{t=1961}^{2000} (X_{i1961} * D_k)\delta_t + \varepsilon_{it}, \tag{1}$$

Trend reversal in (1) summarized by:

$$\begin{aligned} B_{it}^{R} = \alpha_i + \beta_t + \gamma_1(B_{i1961}^{R}[t-1961]) + \gamma_2(B_{i1961}^{R}[t-1977]P_{1977}) + \gamma_3(B_{i1961}^{R}[t-1990]P_{1990}) \\ + \gamma_4(B_{i1961}^{R}P_{1977}) + \gamma_5(B_{i1961}^{R}P_{1990}) + F(X_{i1961}) + \varepsilon_{it} \end{aligned} \tag{2}$$

Burgess and Pande (2005) Methodology

Initial Financial Development and Bank Branch Expansion



- **Relevance:** the trend reversals in 1977 and 1990 are statistically significant, as confirmed by the F-tests on restriction $\gamma_1 + \gamma_2 = 0$ and $\gamma_1 + \gamma_2 + \gamma_3 = 0$
- **Exogeneity:** the imposition and removal of the 1:4 rule in 1977 are assumed as an exogenous instrument since the authors do not observe the structural breaks in other political and policy variables (Burgess & Pande, 2003)

Burgess and Pande (2005) Methodology

Instrumental Variable Regression - Second Stage

$$y_{it} = \alpha_i + \beta_t + \phi B^R_{it} + \mu_1([t-1961]B_{i1961}) + \mu_2(P_{1977}B_{i1961}) + \mu_3(P_{1990}B_{i1961}) + u_{it} \quad (3)$$

Table 1. Bank branch expansion and poverty: instrumental variables evidence

	Headcount ratio		
	Rural	Urban	Aggregate
	IV	IV	IV
	(1)	(2)	(3)
Number branches opened in rural unbanked locations per capita	-4.74**	-0.66	-4.10**
	(1.79)	(1.07)	(1.46)
Number of Bank Branches per capita in 1961*(1961–2000) trend	-0.48*	-0.26*	-0.46*
	(0.27)	(0.13)	(0.23)
Number of Bank Branches per capita in 1961*Post-1976 dummy	-1.42	-2.06	-1.39
	(2.30)	(1.65)	(2.03)
Number of Bank Branches per capita in 1961*Post-1989 dummy	-1.08	-0.47	-1.55
	(2.33)	(1.02)	(1.76)
State and year dummies	YES	YES	YES
Other controls	YES	YES	YES
Overidentification test	[0.99]	[0.99]	[0.99]
Observations	627	627	627
Adjusted R-squared	0.76	0.915	0.818

The Indian policies of the late 20th century

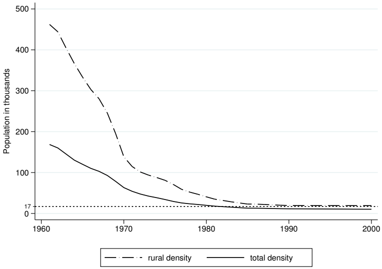
TABLE Chronology of the Bank Licensing Policies

1961	BLP - (2 : 1) Rule
1967	BLP - (1 : 1) Rule
1969	Reserve Bank of India nationalized the 14 largest commercial banks
1970	BLP - (1 : 2) if 60% rural; (1 : 3) if not
1971	BLP - (1 + 1 : 2) if 60% rural; (1 + 1 : 3) if not
1977	BLP - (1 + 1 : 4) Rule
1979	New BLP - target - 20,000 people per rural bank
1980	**IRDP - Integrated Rural Development Program**
1982	New BLP - target - 17,000 people per rural bank
1985	New BLP - target - 17,000 people per rural bank
1990	End of BLP

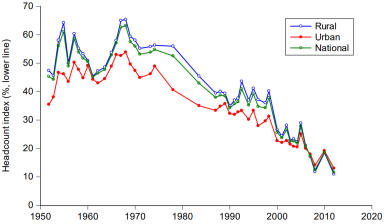
The Indian policies of the late 20th century

Population-to-rural bank ratio total for India and by state

Population-to-rural bank ratio, India

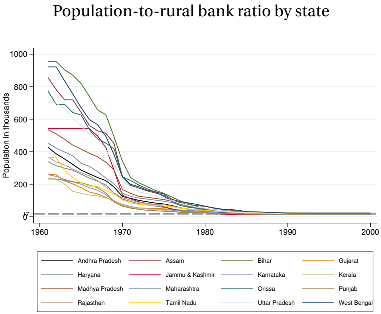


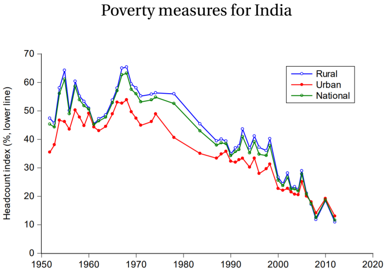
Poverty measures for India



The Indian policies of the late 20th century

Population-to-rural bank ratio total for India and by state





Sensitivity checks: different cut-years

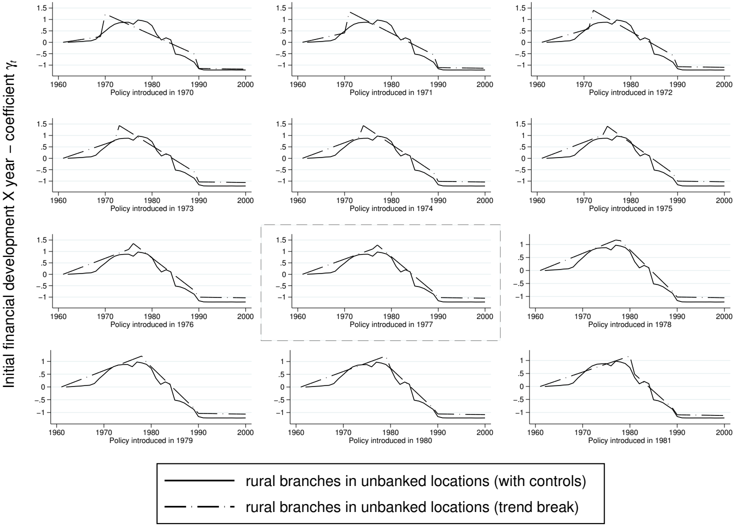
Problem of instrumental validity

- **Sensitivity checks** show that structural shifts in the rural bank expansion and rural poverty can be identified for almost any other year between 1970 and 1984.
- **Relevance:** the significance of trend reversals implies that almost any cut-year from 1970 to 1984 gives a relevant instrument
- **Exogeneity:** the significance of other cut-years indicate the importance of different poverty targeting policies for the dynamics of banking network expansion

Therefore:

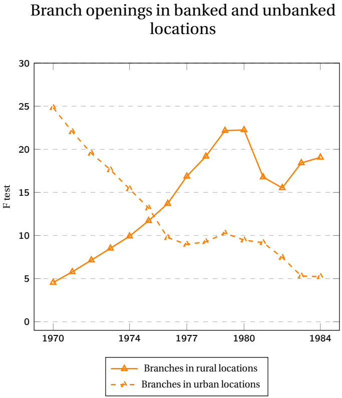
- the identification of the effect of bank expansion on poverty reduction is debatable due to the instrument's potential endogeneity with respect to other policies affecting both bank branch expansion and poverty.

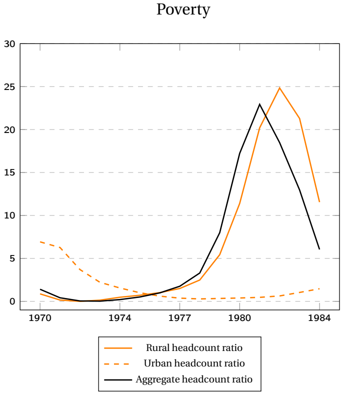
Initial financial development and rural branch expansion by cut-years



Sensitivity checks: different cut-years

Significance of trend reversals for different cut-years





- Trend reversals for bank branch openings are significant for all cut years
- The F-statistics of no-trend reversal tests are maximized for cut years different from 1977

Sensitivity checks: different cut-years

Impact of bank branch expansion on headcount poverty (IV regression)

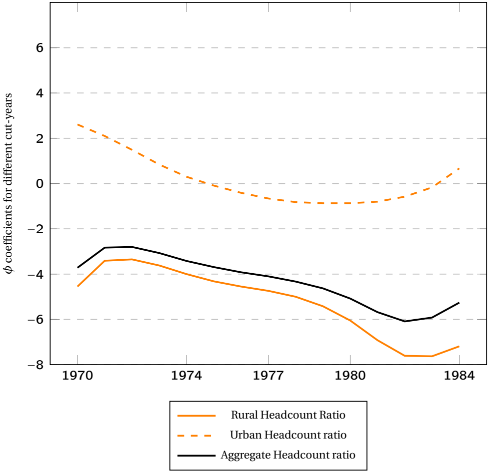
Table 2 - Rural Headcount Ratio (IV)

	1975	1977	1979	1981	1983
	Rural Headcount ratio				
	(1)	(2)	(3)	(4)	(5)
Number of branches opened in rural unbanked locations per capita	-4.32** (1.952)	-4.74** (1.790)	-5.42*** (1.605)	-6.92*** (1.589)	-7.63*** (2.110)
Number of Bank Branches per capita in 1961 * (1961 - 2000) trend	-0.44 (0.261)	-0.48* (0.269)	-0.44 (0.267)	-0.38 (0.285)	-0.47 (0.299)
Number of Bank Branches per capita in 1961 * Post-T dummy	-2.03 (2.894)	-1.42 (2.297)	-2.64 (2.448)	-4.92 (4.277)	-3.61 (5.025)
Number of Bank Branches per capita in 1961 * Post-1989 dummy	-1.07 (2.338)	-1.08 (2.334)	-1.98 (1.886)	-3.44** (1.287)	-3.27*** (0.955)
State and year dummies	YES	YES	YES	YES	YES
Other controls	YES	YES	YES	YES	YES
Adjusted R-squared	0.774	0.76	0.739	0.692	0.704
Observations	627	627	627	627	627

The impact of bank expansion on rural poverty is strongest with trend breaks in 1982 and 1983, rather than in 1977

Sensitivity checks: different cut-years

Impact of bank branch expansion on headcount poverty (IV regression)



- These results challenge both the qualitative and quantitative implications of Burgess and Pande (2005).

Conclusion

From a policy perspective:

- Burgess and Pande (2005) overestimate the effects of bank expansion on rural poverty decline
- the positive effects of state-led bank expansion on rural poverty, without additional credit subsidies and other policies, are not apparent
- The critical lessons from the Indian experience should not be overlooked, no matter how tempting the reliance on bank expansion might be
- Therefore the development strategies should consider more efficient policies to mitigate poverty and not rely solely on easier access to finance

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