Online Appendix

for

"How do Voters Respond to Welfare vis-a-vis Public Good Programs? Theory and Evidence of Political Clientelism"

This Appendix reports additional results and analyses. Section A provides institutional details on how the budget is divided between different programs and the role of *Gram Panchayats* (GPs) in the allocation process. Section B provides details of the straw poll procedure used in the survey. It highlights the steps followed to ensure secrecy of the voting process and the data. Section C provides the following supplementary tables and figures:

- Table A1 shows the extent of within-village clustering of household responses to receiving road benefits.
- Table A2 provides details of welfare and infrastructure programs used in the analysis.
- Table A3 shows the estimated coefficients for all the interaction terms in the regression specification for Table 5.
- Table A4 adds group specific time trends as controls to the regression specifications in Table 5.
- Table A5 estimates the same regression specifications as Table 5, but with an alternative measure for the dependent variable.
- Table A6 provides results for each program benefit separately rather than aggregating them into private or public benefits.
- Table A7 provides results of placebo tests with an alternative measure for the dependent variable.
- Table A8 presents estimates for equations 11 and 12 for road benefits, without imputations.
- Table A9 presents difference-in-differences estimates for equations 11 and 12 of section 5.1 with observations at the village-year level over the period 2004-2011.

- Table A10 presents difference-in-differences estimates for equations 11 and 12 of section 5.1 with observations at the village-year level over the period 1998-2008.
- Table A11 presents estimates for equations 11 and 12 of section 5.1 when 'other private benefits' are included in the definition of private benefits.
- Table A12 presents the robustness of results in Table 8 when district fixed effects are excluded as controls.
- Table A13 presents the robustness of results in Table 8 when the standard errors are clustered at the district level.
- Figure A1 shows the extent of overlap between Assembly Constituencies (AC) and Panchayat Samiti (PS) boundaries in West Bengal.
- Figure A2 presents robustness of the event study in Figure 7 when the pre-treatment period includes years 1998-2003.
- Figure A3 compares our sample data with publicly available Socio Economic and Caste Census (SECC) data.

A. GP Autonomy: Institutional Details

During the period of study, West Bengal GPs had very little autonomy over selection of development or welfare projects. Most programs they administered were 'centrally sponsored programs' on specific types of benefit programs which were created and largely funded by the central government, which filtered down from the central government to the state government and then down to district Zilla Parishads (ZP) and block Panchayat Samitis (PS). GPs could request specific projects within the ambit of these programs to the relevant PS/ZP, but the ultimate authority for administrative, technical and financial approval was vested entirely in the PS/ZP.

These administrative procedures are clearly laid out in the West Bengal Panchayat Accounts and Finance Rules (WBPAFR) of 2003. Chapter 1, General Procedure of these Rules, article 4 defines the financial authority of every ZP or PS in allowing them to constitute ZP and PS funds respectively, and gives corresponding officials of these bodies the sole authority over the use of these funds. Chapter III on Approval and Sanction of Public Works, clauses 74-79 require GPs to apply for and secure administrative, technical and financial approval from the ZP or PS, prior to conducting each and every project, with the funds to be allocated from the relevant financial account (Artha Sthayee Samiti) of the PS.

The lack of devolution of project choice to GPs has been noted by various State Finance Commissions as well as the World Bank. For instance the 4th State Finance Commission (4th SFC Report) states:

> ..the picture of local government institutions appear to be far from the desired level of aspirations. Panchayati Raj Institutions (PRI) have been generally implementing Centrally Sponsored Schemes (CSS). Bewildering patchworks of CSSs are very poorly coordinated and there is very little sense about the overall impact of all these schemes at the local level. PRIs have almost no say in range, scale or scope of these schemes. (4th SFC Report,Para 3.12 (pp 25-26))

The World Bank Project Appraisal Document for its Institutional Strengthening of Gram

Panchayats Project (ISGPP) established in 2010 stated:

> EPRIs, specifically GPs, lack sufficient funding to execute their service-delivery functions. Most of their current funding (approximately 74%) is consumed by fixed expenditures or devoted to centrally sponsored, earmarked programs over which they have little say or control. Increasing their access to discretionary resources is therefore particularly important to enable them to finance service delivery and infrastructure investments in line with local needs. In sum, core PRI fiscal challenge has two inter-related dimensions: first, to provide GPs with funding of a quantum and character to enable them to plan predictably and deliver reliably in their functional mandates in line with local needs; second, to strengthen the PRI fiscal framework in the state by introducing more rational allocatory systems.(ISGPP Report, para 3 (i), pp 1-2)

These observations motivated the design of the ISGPP jointly by the World Bank and West Bengal government (GoWB), which was implemented after 2011 the period of our study:

> .. the GoWB wishes to introduce a grant to GPs to invest in public services and infrastructure to deliver on their functional mandates in line with local needs, together with the necessary capacity-building inputs to allow them to enhance their performance. The overall strategic vision is to institute a block (i.e. discretionary) grant system which incentivizes local governance and service-delivery performance throughout the state as an integral and ongoing element of the broader PRI fiscal framework in West Bengal. To this end, the GoWB has requested Bank support and the proposed project, while initially limited to around a third of the GPs in the state, seeks ultimately to have a systemic impact: it is intended that the grant introduced by the project will be expanded to all GPs, funded by GoWB on a regular and sustained basis (see section on Sustainability) and will become an integral part of the local government fiscal framework throughout West Bengal, with state-wide impacts on PRI institutional performance.(ISGPP Report, para 4, page 2)

B. Straw Poll Procedure

In order to ensure secrecy of voting process and data, the following steps were followed:

1. The day before the poll, survey investigators visited heads of households in their respective houses in the villages to exchange greetings and explain to them the purpose of the survey and straw poll. They were told that the survey was conducted to understand their level of living and perceptions of socio-economic and political issues, and that the poll was specifically designed to understand their voting patterns while maintaining confidentiality. They were told it was their choice whether to participate in both the survey and the poll. An appointment was sought from the household heads who indicated their willingness to participate.

2. Details of the voting process and the way in which confidentiality would be maintained was explained in detail to respondents. It was mentioned that the investigator would turn up on the day of poll at the stipulated time to the house with a sealed cardboard box (which looks like a ballot box).

3. On the day of survey, the box was shown and opened before the household representative to show that it contained many folded and stapled ballots. For the first household, some blank papers that resembled ballots were kept.

4. The name of the village was mentioned on the ballot box.

5. The respondent was handed over a ballot (where the respondent had to put a cross mark on the symbol of the preferred party) and a dummy (example) vote was demonstrated. The dummy ballot was then destroyed and discarded.

6. The respondent was then requested to go to a corner of the room and secretly vote using a pencil.

7. The household respondent stapled the ballot and dropped it into the ballot box. He/she was then requested to shuffle the ballots.

8. The ballot box was sealed with cellotape in the presence of the respondent.

9. In this way, ballots from participating household heads or their representatives were collected in the village specific ballot boxes. The investigator then carried all the sealed boxes to the supervisors in sealed condition.

10. The supervisors carried the sealed boxes to the Project Head Office, Indian Statistical Institute at Kolkata.

11. The backside of each ballot contained a ID number which was generated by a code assigned to each household by the PI. Neither the investigators, nor supervisors nor the scrutinisers had access to this code, which was kept privately by the PI.

12. The ballots and survey questionnaires were sent for entry separately to the data entry company's office at Kolkata. The data entry company did not have access to the name and address of any household; they could only see the household ID number. They entered data for each household against its ID number.

C. Supplementary Tables

Table A1: Household Pairs with Same Reported Benefits

Category	Proportion of village-years within category	
Percent of HH pairs with same report within village-year	Public Benefits	Private Benefits
>= 95%	0.81	0.45
>= 90%	0.85	0.52
>= 85%	0.88	0.61
>= 80%	0.91	0.72
>= 75%	0.93	0.77
>= 70%	0.94	0.82
>= 65%	0.96	0.85
>= 60%	0.97	0.90
>= 55%	0.98	0.92
>= 50%	0.98	0.95

Note. This table reports the proportion of village-years in which at least x percent of household pairs provided the same report for each category of benefits. Same report for public (private) goods means that either both households in the pair reported receiving road (private) benefits or both reported not receiving the benefit.

Table A2: Details of Welfare and Infrastructure Programs

Type of Benefits	Details of Government Programs
Employment	*Sampoorna Grameen Rozgar Yojana*. Launched in 2001 with an objective to provide employment and food to people in rural areas who lived below the poverty line, with a preference for scheduled castes and women. *National Rural Employment Guarantee Act (NREGA)*. The NREGA act was passed by the Indian Parliament in 2005 and implemented across different parts of India in three phases between 2006 and 2009. It provides an entitlement of 100 days' work with a mandated minimum wage on a local government administered project. *MPLAD* employment. Members of parliament are provided annual lump sum amounts in their Local Area Development funds to build local infrastructure projects, some parts of which are allocated for labor costs for the construction. This provides short term employment to construction workers.
Agricultural Minikits	An important component of agricultural policy of the central government that comprised of distributing minikits containing seeds of high yielding rice varieties, potatoes, mustard, sesame, vegetables, fruits and lentils, besides fertilizers and pesticides. These were provided at highly subsidized rates.
Ration Cards	*Below Poverty Line (BPL) cards*. These cards identify poor households and entitle them to subsidized foodgrains, kerosene, cooking gas, free housing, old-age pensions, subsidized healthcare services, and many others.
Housing and Toilet	*Indira Awaas Yojana (IAY)*. Provides a lump sum transfer to households with BPL cards to build houses and toilets. The beneficiaries are selected by local governments in consultation with village assemblies. The houses have to meet certain standards, such as the inclusion of sanitation facilities and smokeless *chulahs* (cooking fireplaces).
Drinking Water	Includes provision of drinking water taps, pumps and wells primarily through state funded projects. Some water projects in this period were funded by external aid donors such as the Asian Development Bank through contracts negotiated bilaterally with state governments.
Credit	*Integrated Rural Development Program (IRDP)*. Offers a package of subsidized loans, technology, services and assets aimed at improving the earning capacity of the rural poor. The most important component was a loan offered to the recipient, a certain fraction of which was a subsidy which did not have to be repaid. The target groups were scheduled castes and tribes, agricultural workers, artisans, marginal and small farmers not owning more than 5 acres of land.
Roads	*Pradhan Mantri Gram Sadak Yojana (PMGSY)*. Implementation began in 2000. It has funded the construction of all-weather roads in 200,000 villages across India. State government officials were instructed to provide detailed plans for rural road construction, based on priorities that depend on village population (in relation to set thresholds of 1,000, 500, and 250) and connectivity to core road network. Plans had to be approved by the central ministry of roads and subjected to subsequent central audits.
Irrigation	Primarily includes minor irrigation projects provided by state government, some supplemented by funding from external aid donors. Includes excavation of ponds, watershed development, or water-lift schemes.

Table A3: Effect of Competition and Alignment on Benefits Distributed

	Effect of High Competition		Effect of High Comptt. By Alignment		Comparing High vs. Low Competition	
	Private	Public	Private	Public	Private	Public
	(1)	(2)	(3)	(4)	(5)	(6)
Post × HC Redistricted	0.60	0.01	-1.32	-0.00	-1.21	-0.00
	(0.66)	(0.33)	(0.27)	(0.14)	(0.30)	(0.18)
Post × HC Redistricted × Aligned			2.25	0.01	2.15	0.06
			(0.72)	(0.41)	(0.74)	(0.42)
Post* LC Redistricted					0.50	0.00
					(0.32)	(0.18)
Post × LC Redistricted × Aligned					-0.26	0.83
					(0.56)	(0.69)
LC Redistricted					-0.74	-0.66
					(0.13)	(0.07)
HC Redistricted	1.08	-1.98	1.89	0.00	1.31	-0.66
	(0.26)	(0.13)	(0.11)	(0.05)	(0.12)	(0.07)
Aligned			-0.02	-0.08	-0.60	-0.71
			(0.14)	(0.09)	(0.16)	(0.10)
Post	0.14	0.08	-0.26	-0.08	-0.37	-0.08
	(0.28)	(0.19)	(0.28)	(0.21)	(0.32)	(0.25)
Post × Aligned			0.48	0.19	0.58	0.13
			(0.36)	(0.22)	(0.40)	(0.24)
HC Redistricted × Aligned			-2.00	-0.00	-1.42	0.63
			(0.29)	(0.16)	(0.30)	(0.17)
LC Redistricted × Aligned					0.58	0.33
					(0.23)	(0.28)
Observations	415	415	415	415	415	415
Adjusted R^2	0.036	0.179	0.059	0.176	0.055	0.182

Note. This table estimates the same regression specifications as Table 5. The only difference between the two tables is the set of variables for which estimated coefficients are shown. This table shows the estimated coefficients for *Post, Aligned, HC Redistricted, LC Redistricted* and their interaction terms. The dependent variable is standardized measure of annual per-HH benefits for each village. Observations are at the village-year level, 2004-2008. Post takes value 1 for years 2007 and onwards. *HC Redistricted* refers to those cases where the village was redistricted to an assembly constituency with a smaller gap in vote share between winner and runner up. *LC Redistricted* refers to those cases where a village was redistricted to an assembly constituency with an equal or a larger gap in vote share between winner and runner up. *PS* refers to *panchayat samiti*, and *Aligned* means same party is in power at both the PS and GP levels. *Private benefits* include MNREGA, MPLAD, IRDP credits, agricultural minikits, ration cards, houses, toilets, and drinking water. *Public benefits* refer to roads and irrigation. The per household road/irrigation benefits are imputed from survey responses using the following procedure: if even a single household reports receiving benefits from roads/irrigation, that village is considered to have had a road/irrigation project built for that year. All specifications include whether MLA/MP was part of delimitation committee, village and year fixed effects. Robust standard errors are in parentheses, clustered at *panchayat samiti* level. The standardized mean (std. dev.) is 0.75 (0.13) for per household private benefits and 0.26 (0.30) for imputed public goods.

Table A4: Robustness: Controlling for Group Specific Time Trends

	Effect of High Competition		Effect of High Comptt. By Alignment		Comparing High vs. Low Competition	
	Private	Public	Private	Public	Private	Public
	(1)	(2)	(3)	(4)	(5)	(6)
Post × HC Redistricted	0.41	-0.21	-2.36	0.22	-2.18	0.24
	(0.85)[0.63]	(0.39)[0.76]	(0.44)[0.21]	(0.24)[0.35]	(0.52)[0.21]	(0.26)[0.36]
Post × HC Redistricted × Aligned			3.26	-0.51	3.24	-0.53
			(0.73)[0.11]	(0.47)[0.31]	(0.74)[0.11]	(0.48)[0.30]
Post × LC Redistricted					1.00	0.24
					(0.58)[0.25]	(0.26)[0.39]
Post × LC Redistricted × Aligned					1.23	-0.41
					(0.70)[0.12]	(0.40)[0.38]
Observations	415	415	415	415	415	415
Adjusted R^2	0.044	0.189	0.050	0.185	0.055	0.180
Test: (Post × HC Redistricted × Aligned) + (Post × HC Redistricted) = 0						
t-Statistic			1.09	-0.67	1.24	-0.66
Wild cluster bootstrap p-value			[0.28]	[0.70]	[0.21]	[0.68]
Effect of Competition (Given Alignment)						
Test: (Post × HC Redistricted × Aligned) = (Post × LC Redistricted × Aligned)						
t-Statistic					2.28	-0.25
Wild cluster bootstrap p-value					[0.12]	[0.83]
Test: (Post × HC Redistricted) = (Post × LC Redistricted)						
t-Statistic					-12.59	-0.13
Wild cluster bootstrap p-value					[0.07]	[0.94]

Note. This table adds group specific time trends as controls to the regression specifications in Table 5. The dependent variable is standardized measure of annual per-HH benefits for each village. Observations are at the village-year level, 2004-2008. Post takes value 1 for years 2007 and onwards. *HC Redistricted* refers to those cases where the village was redistricted to an assembly constituency with a smaller gap in vote share between winner and runner up. *LC Redistricted* refers to those cases where a village was redistricted to an assembly constituency with an equal or a larger gap in vote share between winner and runner up. *PS* refers to *panchayat samiti*, and *Aligned* means same party is in power at both the PS and GP levels. *Private benefits* include MNREGA, MPLAD, IRDP credits, agricultural minikits, ration cards, houses, toilets, and drinking water. *Public benefits* refer to roads and irrigation. The per household road/irrigation benefits are imputed from survey responses using the following procedure: if even a single household reports receiving benefits from roads/irrigation, that village is considered to have had a road/irrigation project built for that year. All specifications include other interaction terms, whether MLA/MP was part of delimitation committee, group specific time trends, village and year fixed effects. Robust standard errors are in parentheses, clustered at *panchayat samiti* level. Wild bootstrapped *p*-values clustered at *panchayat samiti* level are in square brackets.

Table A5: Robustness: Proportion of Households Who Reported Benefiting from Each Program

	Effect of High Competition		Effect of High Comptt. By Alignment		Comparing High vs. Low Competition	
	Private	Public	Private	Public	Private	Public
	(1)	(2)	(3)	(4)	(5)	(6)
Post × HC Redistricted	0.06	-0.00	-0.23	-0.00	-0.23	-0.00
	(0.08)[0.42]	(0.10)[0.99]	(0.11)[0.09]	(0.04)[0.94]	(0.11)[0.09]	(0.05)[0.98]
Post × HC Redistricted × Aligned			0.35	-0.00	0.35	0.01
			(0.13)[0.07]	(0.12)[0.98]	(0.13)[0.07]	(0.13)[0.93]
Post × LC Redistricted					0.02	-0.00
					(0.04)[0.69]	(0.05)[0.92]
Post × LC Redistricted × Aligned					0.03	0.24
					(0.07)[0.63]	(0.21)[0.35]
Observations	415	415	415	415	415	415
Adjusted R^2	0.097	0.190	0.127	0.188	0.124	0.194
Mean Annual Per HH Benefits	0.11	0.08	0.11	0.08	0.11	0.08
SD Annual Per HH Benefits	0.16	0.27	0.16	0.27	0.16	0.27
Test: (Post × HC Redistricted × Aligned) + (Post × HC Redistricted) = 0						
t-Statistic			1.52	-0.03	1.54	0.12
Wild cluster bootstrap p-value			[0.15]	[0.98]	[0.14]	[0.91]
Effect of Competition (Given Alignment)						
Test: (Post × HC Redistricted × Aligned) = (Post × LC Redistricted × Aligned)						
t-Statistic					2.39	-0.99
Wild cluster bootstrap p-value					[0.06]	[0.42]
Test: (Post × HC Redistricted) = (Post × LC Redistricted)						
t-Statistic					-2.35	0.06
Wild cluster bootstrap p-value					[0.08]	[0.94]

Note. This table estimates the same regression specifications as Table 5, but with an alternative measure for the dependent variable – the proportion of households within village in each year who reported benefiting from each program. Observations are at the village-year level, 2004-2008. Post takes value 1 for years 2007 and onwards. *HC Redistricted* refers to those cases where the village was redistricted to an assembly constituency with a smaller gap in vote share between winner and runner up. *LC Redistricted* refers to those cases where a village was redistricted to an assembly constituency with an equal or a larger gap in vote share between winner and runner up. *PS* refers to *panchayat samiti*, and *Aligned* means same party is in power at both the PS and GP levels. *Private benefits* include MNREGA, MPLAD, IRDP credits, agricultural minikits, ration cards, houses, toilets, and drinking water. *Public benefits* refers to roads and irrigation. All specifications include whether MLA/MP was part of delimitation committee, village and year fixed effects. Robust standard errors are in parentheses, clustered at *panchayat samiti* level. Wild bootstrapped *p*-values clustered at *panchayat samiti* level are in square brackets.

Table A6: Examining Effect of Competition and Alignment by Type of Benefits

	Employment	Credit	Minikit	BPL Cards	Drinking Water	Housing, Toilet
	(1)	(2)	(3)	(4)	(5)	(6)
Panel [a] Dependent Variable: Standardized Annual per-Household Benefits in Village						
Post × HC Redistricted	-2.05	0.27	-0.91	-1.39	-1.28	0.17
	(0.38)[0.05]	(0.37)[0.43]	(0.99)[0.75]	(0.56)[0.09]	(0.45)[0.16]	(0.25)[0.50]
Post × HC Redistricted × Aligned	2.79	-0.01	1.55	2.46	3.18	0.10
	(0.50)[0.03]	(0.57)[0.98]	(1.01)[0.26]	(1.41)[0.17]	(1.37)[0.13]	(0.29)[0.75]
Post × LC Redistricted	0.85	-0.01	0.05	-0.96	-1.56	0.55
	(0.65)[0.19]	(0.38)[0.98]	(0.41)[0.90]	(0.80)[0.25]	(0.50)[0.12]	(0.35)[0.45]
Post × LC Redistricted × Aligned	-0.70	-0.23	0.90	2.95	2.37	-0.34
	(0.83)[0.56]	(0.46)[0.66]	(0.41)[0.06]	(1.15)[0.06]	(1.04)[0.11]	(0.62)[0.66]
Observations	747	747	747	747	747	747
Adjusted R^2	0.101	0.015	0.061	0.059	0.111	0.082
Panel [b] Dependent Variable: Proportion of Households in Village Who Reported Benefiting from Programs						
Post × HC Redistricted	-0.21	0.00	-0.05	-0.04	-0.06	0.01
	(0.04)[0.06]	(0.00)[0.44]	(0.05)[0.75]	(0.01)[0.09]	(0.02)[0.16]	(0.01)[0.51]
Post × HC Redistricted × Aligned	0.28	-0.00	0.08	0.06	0.15	0.00
	(0.05)[0.02]	(0.00)[0.98]	(0.05)[0.26]	(0.04)[0.17]	(0.07)[0.13]	(0.01)[0.87]
Post × LC Redistricted	0.08	-0.00	0.00	-0.02	-0.07	0.01
	(0.07)[0.22]	(0.00)[0.98]	(0.02)[0.91]	(0.02)[0.25]	(0.02)[0.12]	(0.01)[0.48]
Post × LC Redistricted × Aligned	-0.06	-0.00	0.05	0.08	0.11	-0.01
	(0.08)[0.57]	(0.00)[0.66]	(0.02)[0.06]	(0.03)[0.06]	(0.05)[0.11]	(0.02)[0.73]
Observations	747	747	747	747	747	747
Adjusted R^2	0.105	0.015	0.061	0.059	0.111	0.082

Note. This table estimates the same regression specifications as Table 5, but instead of aggregating the program benefits into private or public, it provides results for each benefit separately. The dependent variable in *Panel [a]* is standardized measure of annual per-HH benefits for each village. The dependent variable in *Panel [b]* is the proportion of households within village in each year who reported benefiting from each program. Observations are at the village-year level, 2004-2008. Post takes value 1 for years 2007 and onwards. *HC Redistricted* refers to those cases where the village was redistricted to an assembly constituency with a smaller gap in vote share between winner and runner up. *LC Redistricted* refers to those cases where a village was redistricted to an assembly constituency with an equal or a larger gap in vote share between winner and runner up. *PS* refers to *panchayat samiti*, and *Aligned* means same party is in power at both the PS and GP levels. *Employment* consists of panchayat-provided employment, MNREGA and MPLAD employment. *BPL* refers to ration cards for households who are below poverty line. All specifications include whether MLA/MP was part of delimitation committee, group specific time trends, district and year fixed effects. Robust standard errors are in parentheses, clustered at *panchayat samiti* level. Wild bootstrapped *p*-values clustered at *panchayat samiti* level are in square brackets.

Table A7: Placebo Tests

	Main Specification (*pre:* 2005-2006) (*post:* 2007)		Placebo Shock (*pre:* 2004-2005) (*post:* 2006)		Placebo Treatment (*pre:* 2004-2006) (*post:* 2007-2008)	
	Private	Public	Private	Public	Private	Public
	(1)	(2)	(3)	(4)	(5)	(6)
Post × HC Redistricted	-0.21	0.05	-0.07	-0.15	0.03	-0.22
	(0.07)[0.13]	(0.06)[0.38]	(0.20)[0.71]	(0.24)[0.61]	(0.05)[0.80]	(0.25)[0.78]
Post × HC Redistricted × Aligned	0.35	-0.10	0.04	0.21	-0.09	0.13
	(0.11)[0.08]	(0.09)[0.25]	(0.21)[0.79]	(0.27)[0.47]	(0.07)[0.20]	(0.26)[0.86]
Post × LC Redistricted	0.05	0.05	-0.10	-0.15	0.01	-0.06
	(0.05)[0.37]	(0.06)[0.44]	(0.09)[0.41]	(0.24)[0.62]	(0.06)0.90]	(0.15)[0.57]
Post × LC Redistricted × Aligned	0.09	0.07	0.00	0.37	-0.19	-0.16
	(0.11)[0.43]	(0.16)[0.67]	(0.10)[0.10]	(0.37)[0.31]	(0.09)[0.05]	(0.18)[0.42]
Observations	249	249	249	249	350	350
Adjusted R^2	0.072	0.269	0.417	0.106	0.139	0.224
Effect of Competition (Given Alignment)						
Test: (Post × HC Redistricted × Aligned) = (Post × LC Redistricted × Aligned)						
t-Statistic	2.20	-1.09	0.22	-0.51	1.35	1.71
Wild cluster bootstrap p-value	[0.09]	[0.31]	[0.73]	[0.62]	[0.22]	[0.08]
Test: (Post × HC Redistricted) = (Post × LC Redistricted)						
t-Statistic	-5.26	-0.18	0.15	0.13	0.58	-1.23
Wild cluster bootstrap p-value	[0.05]	[0.88]	[0.82]	[0.86]	[0.64]	[0.51]

Note. This table estimates the same regression specifications as Table 7, but with an alternative measure for the dependent variable – the proportion of households within village in each year who reported benefiting from each program. Observations are at the village-year level. *PS* refers to *panchayat samiti*, and *Aligned* means same party is in power at both the PS and GP levels. *Private benefits* include MNREGA, MPLAD, IRDP credits, agricultural minikits, ration cards, houses, toilets, and drinking water. *Public benefits* refer to roads and irrigation. All specifications include other interaction terms, whether MLA/MP was part of delimitation committee, village and year fixed effects. For *Placebo Shock* regressions, the time period is 2004-2006. Post takes value 1 for 2006. *Redistricted* refers to cases where the GP was redistricted to an assembly constituency where the incumbent party has a lower likelihood of winning based on victory margins. For *Placebo Treatment* regressions, the time period is 2004-2008. Post takes value 1 for years 2007 and onwards. *Redistricted* refers to a placebo treatment group constructed randomly using sub-sample of villages that were not HC redistricted in 2006. Robust standard errors are in parentheses, clustered at *panchayat samiti* level. Wild bootstrapped *p*-values clustered at *panchayat samiti* level are in square brackets.

Table A8: Robustness of Public Benefit Allocation Results: No Imputations

	Effect of High Competition (1)	Effect of Alignment (Given Competition) (2)	Effect of Alignment (HCR and LCR Villages) (3)
Post × HC Redistricted	-0.22	-0.13	-0.18
	(0.64)[0.72]	(0.22)[0.64]	(0.28)[0.63]
Post × HC Redistricted × Aligned		-0.13	-0.06
		(0.78)[0.87]	(0.81)[0.94]
Post × LC Redistricted			-0.18
			(0.28)[0.65]
Post × LC Redistricted × Aligned			0.58
			(1.17)[0.62]
Observations	415	415	415
Adjusted R^2	0.040	0.039	0.034
Test: (Post × HC Redistricted × Aligned) + (Post × HC Redistricted) = 0			
t-Statistic		-0.36	-0.31
Wild cluster bootstrap p-value		[0.73]	[0.76]
Effect of Competition (Given Alignment)			
Test: (Post × HC Redistricted × Aligned) = (Post × LC Redistricted × Aligned)			
t-Statistic			-0.52
Wild cluster bootstrap p-value			[0.66]
Test: (Post × HC Redistricted) = (Post × LC Redistricted)			
t-Statistic			-0.41
Wild cluster bootstrap p-value			[0.75]

Note. This table presents estimates for equations 11 and 12 for road benefits, without imputations. Observations are at the village-year level, 2004-2008. Post takes value 1 for years 2007 and onwards. The dependent variable is standardized measure of annual per-HH benefits for each village. *HC Redistricted* refers to those cases where the village was redistricted to an assembly constituency with a smaller gap in vote share between winner and runner up. *LC Redistricted* refers to those cases where a village was redistricted to an assembly constituency with an equal or a larger gap in vote share between winner and runner up. *PS* refers to *panchayat samiti*, and *Aligned* means same party is in power at both the PS and GP levels. *Public benefits* refer to roads and irrigation. The per household road benefits are based on actual reports of each household. All specifications include other interaction terms, whether MLA/MP was part of delimitation committee, village and year fixed effects. Robust standard errors are in parentheses, clustered at *panchayat samiti* level. Wild bootstrapped *p*-values clustered at *panchayat samiti* level are in square brackets.

Table A9: Robustness: Including Period 2009-2011

	Effect of High Competition		Effect of Alignment (Given Competition)		Effect of Alignment (HCR and LCR)	
	Private	Public	Private	Public	Private	Public
	(1)	(2)	(3)	(4)	(5)	(6)
Post × HC Redistricted	0.14	0.04	-2.04	-0.27	-2.05	-0.29
	(0.46)[0.78]	(0.22)[0.87]	(0.32)[0.14]	(0.19)[0.26]	(0.41)[0.15]	(0.23)[0.29]
Post × HC Redistricted × Aligned			2.71	0.43	2.75	0.50
			(0.59)[0.07]	(0.33)[0.28]	(0.66)[0.07]	(0.36)[0.27]
Post × LC Redistricted					0.01	-0.07
					(0.43)[0.99]	(0.32)[0.88]
Post × LC Redistricted × Aligned					0.48	0.73
					(0.62)[0.48]	(0.49)[0.30]
Observations	664	664	664	664	664	664
Adjusted R^2	0.115	0.177	0.132	0.176	0.140	0.189
Mean Annual Per HH Benefits	0.15	0.12	0.15	0.12	0.15	0.12
SD Annual Per HH Benefits	1.34	1.06	1.34	1.06	1.34	1.06
Test: (Post × HC Redistricted × Aligned) + (Post × HC Redistricted) = 0						
t-Statistic			1.38	0.65	1.43	0.80
Wild cluster bootstrap p-value			[0.21]	[0.60]	[0.20]	[0.50]
Effect of Competition (Given Alignment)						
Test: (Post × HC Redistricted × Aligned) = (Post × LC Redistricted × Aligned)						
t-Statistic					3.90	-0.49
Wild cluster bootstrap p-value					[0.03]	[0.68]
Test: (Post × HC Redistricted) = (Post × LC Redistricted)						
t-Statistic					-18.62	-1.05
Wild cluster bootstrap p-value					[0.04]	[0.53]

Note. This table presents difference-in-differences estimates for equations 11 and 12 of section 5.1 with observations at the village-year level over the period 2004-2011. Post takes value 1 for years 2007 and onwards. The dependent variable is standardized measure of annual per-HH benefits for each village. *HC Redistricted* refers to those cases where the village was redistricted to an assembly constituency with a smaller gap in vote share between winner and runner up. *LC Redistricted* refers to those cases where a village was redistricted to an assembly constituency with an equal or a larger gap in vote share between winner and runner up. *PS* refers to *panchayat samiti*, and *Aligned* means same party is in power at both the PS and GP levels. *Private benefits* include panchayat-provided employment, MNREGA, MPLAD, IRDP credits, agricultural minikits, ration cards, houses, toilets, and drinking water. *Public benefits* refer to roads and irrigation. The per household road/irrigation benefits are imputed from survey responses using the following procedure: if even a single household reports receiving benefits from roads/irrigation, that village is considered to have had a road/irrigation project built for that year. All specifications include other interaction terms, whether MLA/MP was part of delimitation committee, village and year fixed effects. Robust standard errors are in parentheses, clustered at *panchayat samiti* level. Wild bootstrapped *p*-values clustered at *panchayat samiti* level are in square brackets.

Table A10: Robustness: Including Period 1998-2008

	Effect of High Competition		Effect of Alignment (Given Competition)		Effect of Alignment (HCR and LCR Villages)	
	Private	Public	Private	Public	Private	Public
	(1)	(2)	(3)	(4)	(5)	(6)
Post × HC Redistricted	0.56	0.12	-1.27	-0.40	-1.21	-0.47
	(0.50)[0.31]	(0.35)[0.73]	(0.31)[0.06]	(0.47)[0.49]	(0.32)[0.08]	(0.55)[0.49]
Post × HC Redistricted × Aligned			2.05	0.63	1.98	0.77
			(0.71)[0.11]	(0.58)[0.31]	(0.71)[0.10]	(0.63)[0.28]
Post × LC Redistricted					0.37	-0.26
					(0.19)[0.15]	(0.49)[0.69]
Post × LC Redistricted × Aligned					-0.45	1.25
					(0.60)[0.63]	(0.71)[0.16]
Observations	913	913	913	913	913	913
Adjusted R^2	0.141	0.360	0.154	0.358	0.151	0.358
Test: (Post × HC Redistricted × Aligned) + (Post × HC Redistricted) = 0						
F-Statistic			1.39	0.60	1.35	0.78
p-value			[0.21]	[0.57]	[0.22]	[0.48]
Effect of Competition (Given Alignment)						
Test: (Post × HC Redistricted × Aligned) = (Post × LC Redistricted × Aligned)						
F-Statistic					2.90	-0.67
p-value					[0.07]	[0.57]
Test: (Post × HC Redistricted) = (Post × LC Redistricted)						
F-Statistic					-5.45	-0.61
p-value					[0.04]	[0.57]

Note. This table presents robustness of results in Table 5 of the paper by extending the pre-treatment period until 1998. Observations are at the village-year level, 1998-2008. Post takes value 1 for years 2007 and onwards. The dependent variable is standardized measure of annual per-HH benefits for each village. *HC Redistricted* refers to those cases where the village was redistricted to an assembly constituency with a smaller gap in vote share between winner and runner up. *LC Redistricted* refers to those cases where a village was redistricted to an assembly constituency with an equal or a larger gap in vote share between winner and runner up. *PS* refers to *panchayat samiti*, and *Aligned* means same party is in power at both the PS and GP levels. *Private benefits* include panchayat-provided employment, MNREGA, MPLAD, IRDP credits, agricultural minikits, ration cards, houses, toilets, and drinking water. *Public benefits* refer to roads and irrigation. The per household road/irrigation benefits are imputed from survey responses using the following procedure: if even a single household reports receiving benefits from roads/irrigation, that village is considered to have had a road/irrigation project built for that year. All specifications include other interaction terms, whether MLA/MP was part of delimitation committee, and village and year fixed effects. Robust standard errors clustered at *panchayat samiti* level are in parentheses. Wild bootstrapped *p*-values clustered at *panchayat samiti* level are in square brackets. Note that we do not have the necessary data for the HC Redistricted × Non-Aligned villages over the period 1998-2003, hence most of the variation for this treatment group comes from the 2004-2008 period.

Table A11: Robustness: Including Other Benefits in Private Benefits

	Effect of High Competition		Effect of Alignment (Given Competition)		Effect of Alignment (HCR and LCR)	
	Private	Public	Private	Public	Private	Public
	(1)	(2)	(3)	(4)	(5)	(6)
Post × HC Redistricted	0.48	0.01	-1.85	-0.00	-1.82	-0.00
	(0.67)[0.46]	(0.33)[0.97]	(0.66)[0.07]	(0.14)[0.98]	(0.68)[0.08]	(0.18)[0.95]
Post × HC Redistricted × Aligned			2.75	0.01	2.74	0.06
			(0.94)[0.08]	(0.41)[0.99]	(0.96)[0.08]	(0.42)[0.88]
Post × LC Redistricted					0.16	0.00
					(0.32)[0.67]	(0.18)[0.88]
Post × LC Redistricted × Aligned					0.30	0.83
					(0.58)[0.63]	(0.69)[0.34]
Observations	415	415	415	415	415	415
Adjusted R^2	0.088	0.179	0.114	0.176	0.111	0.182
Mean Annual Per HH Benefits	0.15	0.00	0.15	0.00	0.15	0.00
SD Annual Per HH Benefits	1.36	0.92	1.36	0.92	1.36	0.92
Test: (Post × HC Redistricted × Aligned) + (Post × HC Redistricted) = 0						
F Statistic			1.31	0.02	1.34	0.17
p-value			[0.19]	[0.98]	[0.18]	[0.87]
Effect of Competition (Given Alignment)						
F-test for (Post × HC Redistricted × Aligned) = (Post × LC Redistricted × Aligned)						
F-Statistic					2.53	-0.99
p-value					[0.05]	[0.42]
F-test for (Post × HC Redistricted) = (Post × LC Redistricted)						
F-Statistic					-3.06	-0.26
p-value					[0.08]	[0.75]

Note. This table presents estimates for equations 11 and 12 of section 5.1 when 'other private benefits' are included in the definition of private benefits. Observations are at the village-year level, 2004-2008. Post takes value 1 for years 2007 and onwards. The dependent variable is standardized measure of annual per-HH benefits for each village. *HC Redistricted* refers to those cases where the village was redistricted to an assembly constituency with a smaller gap in vote share between winner and runner up. *LC Redistricted* refers to those cases where a village was redistricted to an assembly constituency with an equal or a larger gap in vote share between winner and runner up. *PS* refers to *panchayat samiti*, and *Aligned* means same party is in power at both the PS and GP levels. *Private benefits* include panchayat-provided employment, MNREGA, MPLAD, IRDP credits, agricultural minikits, ration cards, houses, toilets, *patta*, *barga*, relief, training, and drinking water. *Public benefits* refer to roads and irrigation. The per household road/irrigation benefits are imputed from survey responses using the following procedure: if even a single household reports receiving benefits from roads/irrigation, that village is considered to have had a road/irrigation project built for that year. All specifications include other interaction terms, whether MLA/MP was part of delimitation committee, village and year fixed effects. Robust standard errors are in parentheses, clustered at *panchayat samiti* level. Wild bootstrapped *p*-values clustered at *panchayat samiti* level are in square brackets.

Table A12: Robustness: Excluding District Fixed Effects in 2011 Voting Regressions

	OLS	IV Regression		
		First Stage		Second Stage
		Private	Public	
	(1)	(2)	(3)	(4)
Private Benefits	0.03			0.15
	(0.02)[0.06]			(0.09)[0.10]
Public Benefits	-0.02			-0.07
	(0.01)[0.23]			(0.06)[0.22]
$S_{d(v)}$		0.17	0.38	
		(0.14)[0.23]	(0.20)[0.06]	
$S_{d(v)} \times$ SC/ST		0.14	-0.17	
		(0.08)[0.07]	(0.10)[0.09]	
$S_{d(v)} \times$ Landless		0.10	-0.17	
		(0.05)[0.04]	(0.07)[0.02]	
$S_{d(v)} \times$ No Education		0.18	0.16	
		(0.06)[0.00]	(0.07)[0.03]	
$S_{d(v)} \times$ Hindu		-0.01	0.14	
		(0.14)[0.93]	(0.20)[0.51]	
Observations	2383	2383	2383	2383
Adjusted R^2	0.142	0.145	0.195	0.094
F-Test of excluded instruments		5.86	9.38	
[p-value]		[0.00]	[0.00]	
Rank Test [p-value]				9.53 [0.05]
Weak-Instrument-Robust Tests:				
Conditional Likelihood Ratio test [p-value]				0.47 [0.88]
J-Overidentification test [p-value]				1.84 [0.61]

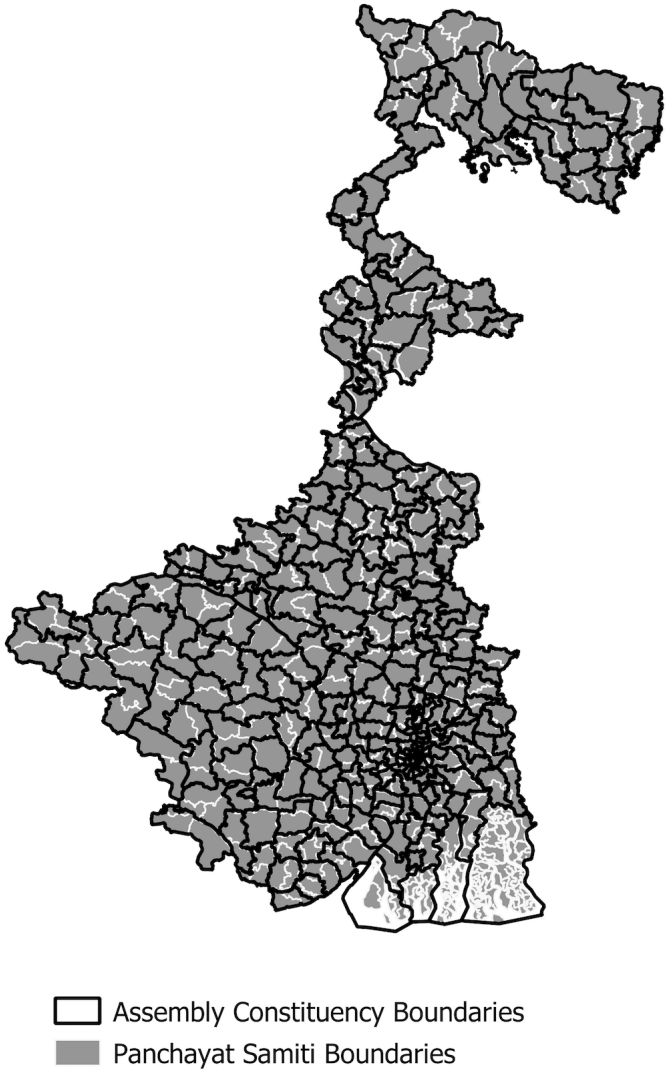
Note. This table presents robustness of results in Table 8 when district fixed effects are excluded as controls. The dependent variable is whether respondent voted for the incumbent party in majority at the GP. *Private* and *public* benefits are standardized and aggregated over period 2009-2011. All specifications control for household (HH) characteristics and GP characteristics. HH Characteristics include SC/ST, religion, landlessness, occupation, and level of education of household head. GP characteristics include dummy for left GP, dummy for left *panchayat samiti* (PS) and dummy for alignment between GP and PS. Endogenous variables: private and public benefits. Excluded instruments: standardized aggregate per capita total benefits ($S_{d(v)}$) and $S_{d(v)}\times$HH characteristics. HH characteristics used for instruments are: SC/ST, landless, no education and religion dummies. Robust standard errors are in parentheses, clustered at village level. P-values clustered at village level are in square brackets. The mean proportion of households voting for incumbent party in majority at the GP is 0.52 and the standard deviation is 0.50.

Table A13: Robustness: Clustering at District Level in 2011 Voting Regressions

	OLS	IV Regression		
		First Stage		Second Stage
		Private	Public	
	(1)	(2)	(3)	(4)
Private Benefits	0.02			0.13
	(0.01) [0.12]			(0.08)[0.08]
Public Benefits	-0.01			-0.08
	(0.01)[0.25]			(0.10)[0.42]
$S_{d(v)}$		-0.87	-0.47	
		(0.29)[0.01]	(0.26)[0.10]	
$S_{d(v)} \times$ SC/ST		0.14	-0.17	
		(0.06)[0.03]	(0.10)[0.10]	
$S_{d(v)} \times$ Landless		0.03	-0.04	
		(0.05)[0.60]	(0.04)[0.33]	
$S_{d(v)} \times$ No Education		0.19	0.14	
		(0.03)[0.00]	(0.04)[0.01]	
$S_{d(v)} \times$ Hindu		-0.11	-0.13	
		(0.16)[0.49]	(0.16)[0.44]	
Observations	2383	2383	2383	2383
Adjusted R^2	0.174	0.239	0.424	0.129
F-Test of excluded instruments		24.24	8.15	
[p-value]		[0.00]	[0.00]	
Rank Test [p-value]				7.26 [0.12]
Weak-Instrument-Robust Tests:				
Conditional Likelihood Ratio test [p-value]				10.28 [0.05]
J-Overidentification test [p-value]				7.42 [0.06]

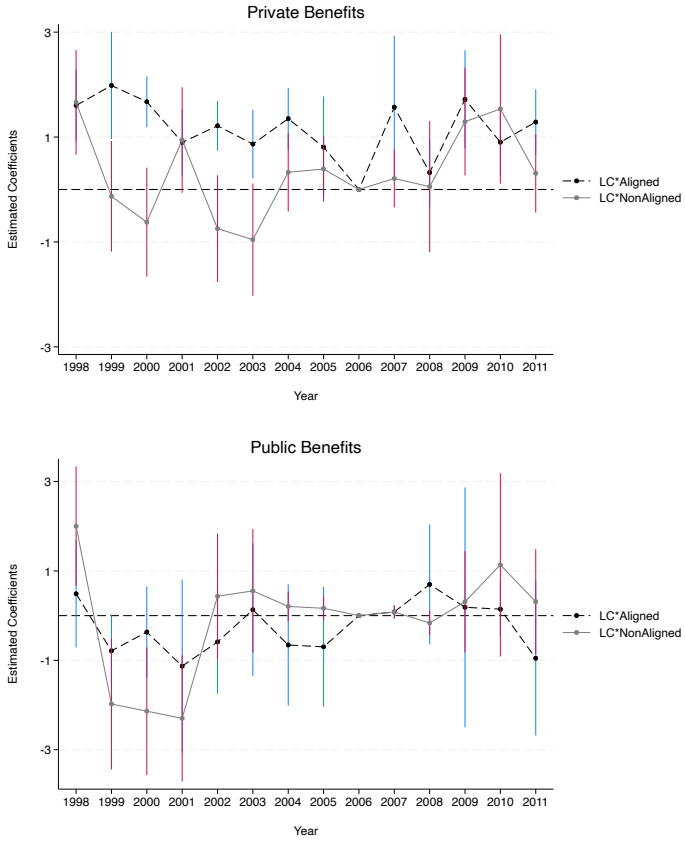
Note. This table presents robustness of results in Table 8 when the standard errors are clustered at the district level. The dependent variable is whether respondent voted for the incumbent party in majority at the GP. *Private* and *public* benefits are standardized and aggregated over period 2009-2011. All specifications control for district fixed effects, household (HH) characteristics and GP characteristics. HH Characteristics include SC/ST, religion, landlessness, occupation, and level of education of household head. GP characteristics include dummy for left GP, dummy for left *panchayat samiti* (PS) and dummy for alignment between GP and PS. Endogenous variables: private and public benefits. Excluded instruments: standardized aggregate per capita total benefits ($S_{d(v)}$) and $S_{d(v)}\times$HH characteristics. HH characteristics used for instruments are: SC/ST, landless, no education and religion dummies. Robust standard errors are in parentheses, clustered at district level. P-values clustered at district level are in square brackets. The mean proportion of households voting for incumbent party in majority at the GP is 0.52 and the standard deviation is 0.50.

Figure A1: Overlap of Assembly Constituency and Panchayat Samiti Boundaries



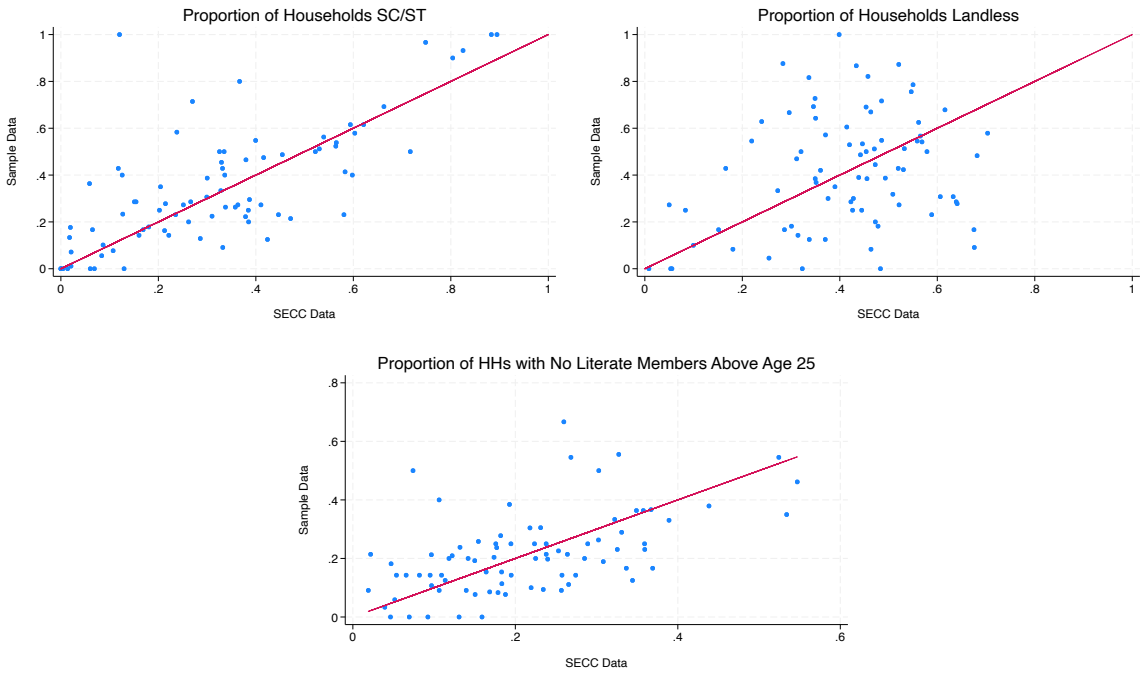
Note. This figure shows the extent of overlap between Assembly Constituencies (AC) and Panchayat Samiti (PS) boundaries in West Bengal. The median of the area overlap between a PS and GP was 87%, and mean was 71%. In 70% of GPs in our sample the corresponding MLA was from the same party that controlled the PS.

Figure A2: Robustness: Extending the Pre-treatment Period in Event Study



Note. This figure presents robustness of the event study in Figure 7 when the pre-treatment period includes years 1998-2003. Each of the graphs plot estimates from separate regressions. Private benefits include MNREGA, MPLAD, IRDP credits, agricultural minikits, ration cards, houses, toilets, and drinking water. Public benefits refer to roads and irrigation projects that households reported benefit- ting from. The per household road benefits are imputed from survey responses using the following procedure: if even a single household reports receiving benefits from roads, that village is considered to have had a road built for that year. Aligned means that the same party is in power at both the panchayat samiti and gram panchayat levels. LC Redistricted refers to those cases where a village was redistricted to an assembly constituency with an equal or a larger gap in vote share between winner and runner up. We do not have data for HC Redistricted $\times$ Non-Aligned villages over the period 1998-2003 to check for parallel trends between the two HC treatment groups and hence we exclude them from this robustness exercise. The treatment effect is normalized to be zero for 2006.

Figure A3: Comparison of Sample Data with Socio Economic and Caste Census Data



Note. This figure compares our sample data with publicly available Socio Economic and Caste Census (SECC) data. A household is defined as landless in our sample if they do not own any land (including homestead). In the SECC data, the corresponding definition is "landless households deriving major part of their income from manual casual labor." In our sample, an individual is defined to be illiterate if the years of schooling is zero. In the SECC data, an individual is defined as illiterate if they "can neither read nor write." The correlation coefficient (p-value) between sample and SECC data is 0.84 (0.00) for SC/ST, 0.43 (0.01) for landless, and 0.63 (0.00) for illiteracy.