



Has the Sector Wide Approach delivered improvements in population health?

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*“SWAp has truly become a popular and widespread means of coordinating and structuring development aid”
(Sundewall and Sahlin-Andersson 2006).*



The SWAp is a *“process rather than a fixed blueprint”*
(Walford 2003)

Agreement

Sector-wide health strategy

Government-led

Budgeted

Share processes

Government systems



- SWAp implementation based upon assumed benefit rather than evidence-based assessments of costs and benefits (Chansa et al. 2008).
- Implementation of SWAp is an evolutionary process – health impacts may take some time (Hutton & Tanner, 2004; Sundewall & Sahlin-Andersson 2006).





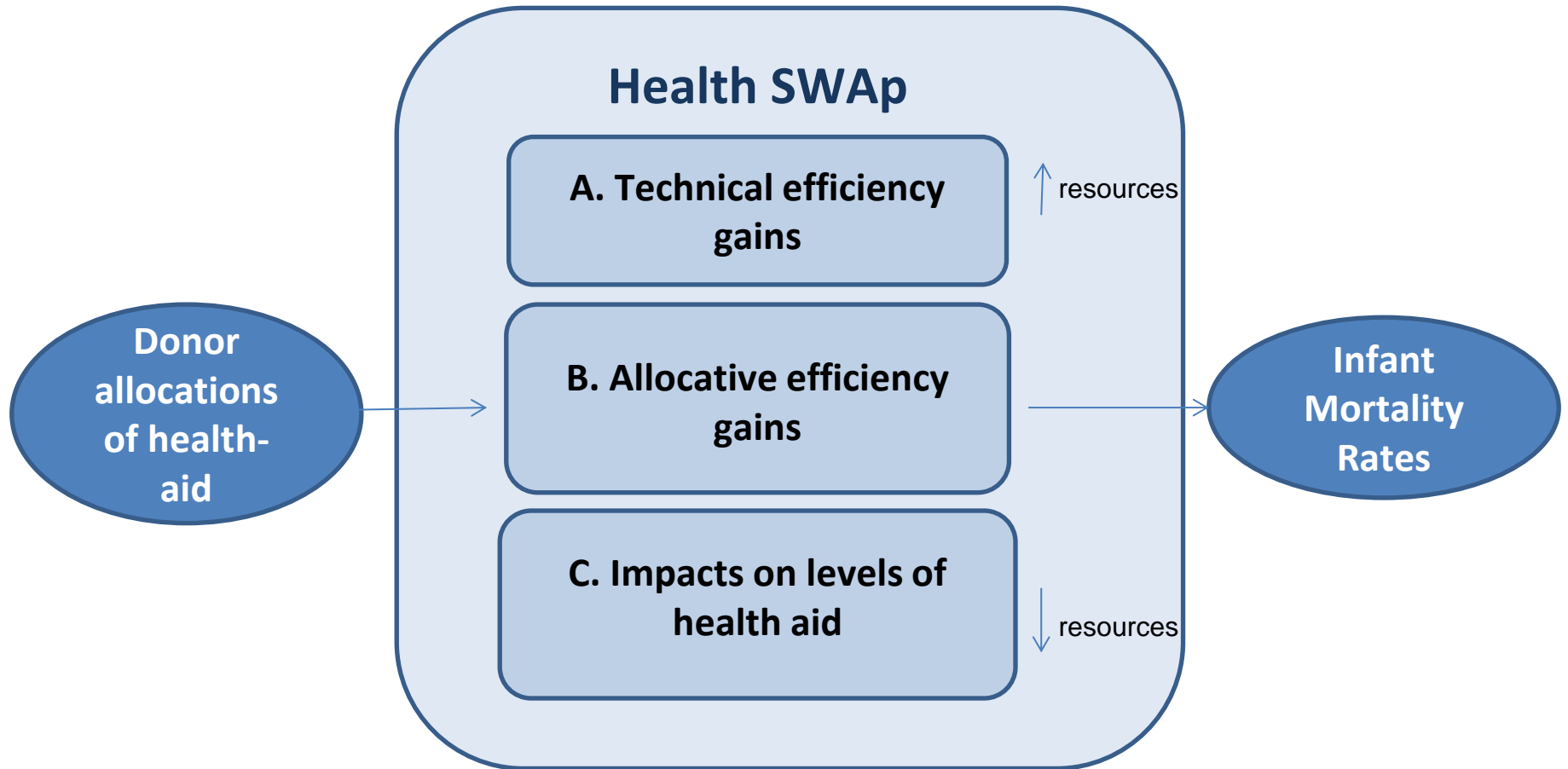
Evidence of impact

- McNee (2012) shows aspects where SWAp have performed poorly against intermediate outcomes, setting low expectations of health improvements.
- Vaillancourt (2009) cites an almost halving of infant mortality in Tanzania between 1997 and 2008.
- OECD (2011), SWAp associated with improved MNCH service utilisation in Nepal, Mali & Malawi. Halving of child and maternal mortality rates in Ethiopia argued to be plausibly attributable to SWAp.
- Case study evaluation methods not suitable for quantifying SWAp impacts.



Further motivation

- **SWAp implementation has led to ‘donor flight’ (Sweeney et al. 2014)**
 - 29.4% reduction in health-aid allocated to the poorest subgroup of implementers compared to the counterfactual.
 - Trade-off between control of health aid and the size of the pot.
- **SWAp may increase ownership by influencing funding flows. (Sweeney et al. 2015)**
 - SWAp increased levels of untied “sector-support” by 360% compared to the counterfactual. Big effect, but from low baseline levels.
 - Evidence suggests, SWAp facilitated reallocations of project-aid away from HIV and MNCH, towards sector support and NCDs.
- **In both cases – welfare effects of these changes are unknown.**





Methods

- Searched for SWAps and constructed a unique dataset of health-aid recipient countries (IHME 2011).
- Identified comparable **treatment** and **control groups**
 - linear probability model used to estimate likelihood of implementing a SWAp given:
 - > GDP/capita, health-aid levels, IMR, life expectancy, population, no. of donors, geographic region.
 - LPM excluded countries with propensity score <25%.
- Difference -in-differences approach using fixed effect panel regressions.
- Sensitivity and robustness tests.



Main sample – at baseline (1990)

Variable	SWAp implementing countries (N=24)		Non-implementing countries (N=19)		T-Test P-value
	Obs	Mean	Obs	Mean	
Infant mortality rate per 1000 live births	24	94.61	19	89.59	0.64
Life expectancy	24	51.19	19	53.70	0.30
GDP per capita (\$US)	24	362.05	19	556.04	0.09
Urbanisation rate	24	21.85	19	31.83	0.02
Population (millions)	24	18.32	19	116.72	0.19
Health-aid per capita (\$US)	24	1.21	19	1.19	0.96
% health-aid allocated for MNCH	24	10%	19	8%	0.70
Education aid per capita (\$US)	24	2.96	19	2.71	0.87
Government effectiveness index ^a	24	-0.70	19	-0.74	0.83
Corruption control index ^a	24	-0.57	19	-0.69	0.48



Main specification – overall effect via all pathways

$$\log(\text{IMR})_{it} = \delta_1 \cdot \text{SWAp}_{it-1} + X_{it-1} + \alpha_j + \mu_t + \varepsilon_{it}$$

Treatment effect

control variables

country trends

global trends




Results (1) – Main model

	Main sample
	Log(IMR)
$SWAp_{t-1}$	-0.067* (0.036)
$\text{Log}(\text{GDP/capita})_{t-1}$	-0.127*** (0.031)
$\text{Log}(\text{education-aid/capita})_{t-1}$	0.003 (0.005)
$\text{Government effectiveness}_{t-1}$	-0.152** (0.064)
$\text{Corruption control}_{t-1}$	0.017 (0.059)
$\text{Urbanisation rate}_t$	-0.006 (0.007)
N	809



Results (2) – Evolving impact

	Main sample
	Log(IMR)
1-3 yrs pre_SWAp	-0.028 (0.038)
First 3 yrs of SWAp	-0.046 (0.053)
More than 4 yrs of SWAp	-0.115* (0.065)
N	809



Results (3) – Controlling for health-aid

Teasing out the SWAp-efficiency and health-aid effects

	Log(IMR)
SWAp _{t-1}	-0.078* (0.04)
(SWAp*Log(health-aid/capita)) _{t-1}	-0.046 (0.03)
Log(health-aid/capita) _{t-1}	-0.005 (0.015)
Total marginal health-aid effect via SWAp countries (beyond mean levels)	-0.051 (0.030) p=0.103
N	809



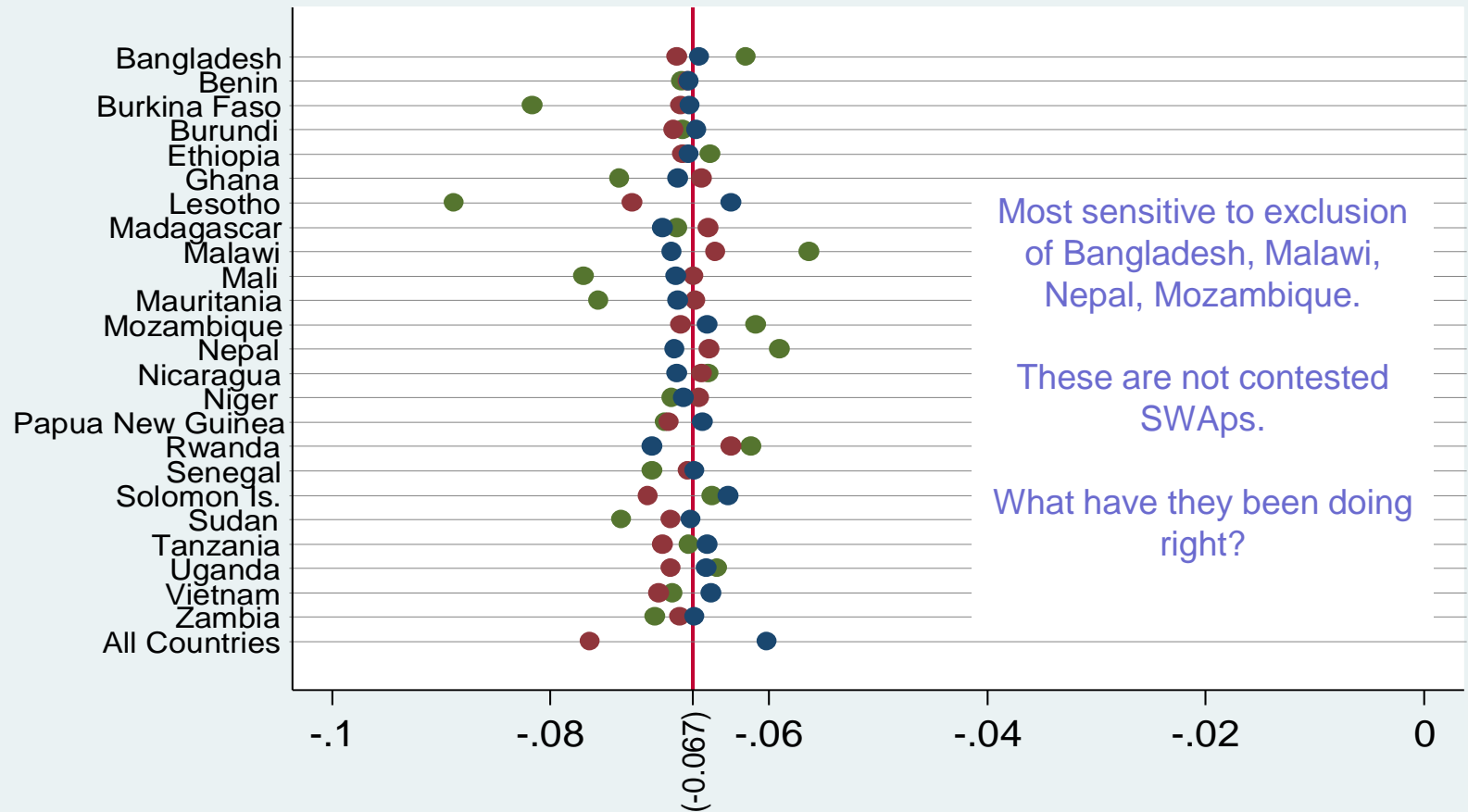
Results (4)

The main results were mostly robust to additional tests:

- Two commonly applied data transformations – logged IMR and averaging observations over period of time to smooth health-aid fluctuations.
- Common trends supported – No difference in pre-implementation IMR trends across groups.
- Tests of SWAp status and commencement uncertainty.



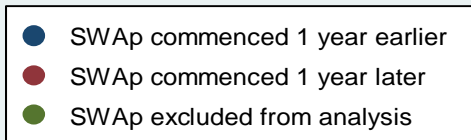
Sensitivity to variations of SWAp commencement and exclusion of each SWAp



Most sensitive to exclusion of Bangladesh, Malawi, Nepal, Mozambique.

These are not contested SWAps.

What have they been doing right?





Final thoughts.

- The SWAp is at a cross-roads:
 - Donors (and some recipient governments) have demonstrated only half-hearted commitment since the beginning.
 - Donors increasingly prefer project-based aid again – easier to track, measure impact, and sell to the voters back home.
 - Lack of evidence of impact.
- However, coordination wary & weary donors should strongly consider re-engaging with health-SWAp.
 - This paper provides compelling evidence that patience is rewarded. SWAp can positively impact population health.
 - These improvements could potentially be greater with increased engagement from donors and recipients.



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References

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Countries included in main analyses

SWAp treatment group (Main sample N=24)		Non-implementing control group (Main sample N=19)	
Bangladesh (1997)	Nepal (2004)	Bhutan	Liberia
Benin (2010)	Nicaragua (2005)	Cameroon	Nigeria
Burkina Faso (2001)	Niger (2006)	Chad	Sierra Leone
Burundi (2008)	Papua New Guinea (2008)	China	The Gambia
Ethiopia (1997)	Rwanda (2007)	Congo	Vanuatu
Ghana (1997)	Senegal (1997)	Congo, DRC	Yemen
Lesotho (2005)	Solomon Is. (2009)	Djibouti	Zimbabwe
Madagascar (2007)	Sudan (2006)	Fiji	
Malawi (2004)	Tanzania (1997)	Guinea-Bissau	
Mali (1998)	Uganda (2000)	India	
Mauritania (2000)	Vietnam (2009)	Kenya	
Mozambique (1997)	Zambia (1993)	Laos	



Variable	SWAp implementing countries			Non-implementing countries			P value
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	
Infant mortality rate per 1000 live births	24	94.61	31.41	19	89.59	38.61	0.64
Life expectancy	24	51.19	7.44	19	53.70	8.14	0.30
HIV prevalence in 18-45 year olds	23	2.66	4.05	15	1.81	3.54	0.51
GDP per capita (\$US)	24	362.05	214.07	19	556.04	441.91	0.09
Urbanisation rate	24	21.85	12.44	19	31.83	14.86	0.02
Population (millions)	24	18.32	5.26	19	116.72	72.46	0.19
DAH (\$US millions)	24	10.35	9.47	19	9.87	14.30	0.90
DAH per capita (\$US)	24	1.21	1.20	19	1.19	1.30	0.96
DAH allocated for MNCH ^a (proportion)	24	0.10	0.20	19	0.08	0.11	0.70
Education aid per capita (\$US)	24	2.96	3.18	19	2.71	5.77	0.87
Government effectiveness index ^b	24	-0.70	0.46	19	-0.74	0.63	0.83
Corruption control index ^b	24	-0.57	0.46	19	-0.69	0.64	0.48

^a The proportion of total DAH specifically designated for maternal, child and neonatal health in the IHME dataset (IHME 2012a).

^b Indicators range between -2.5 to 2.5, with higher scores indicating better perceived performance (Kaufmann et al. 2010). Note, this index was first introduced for 1996 and averages for 1996 scores are presented here.



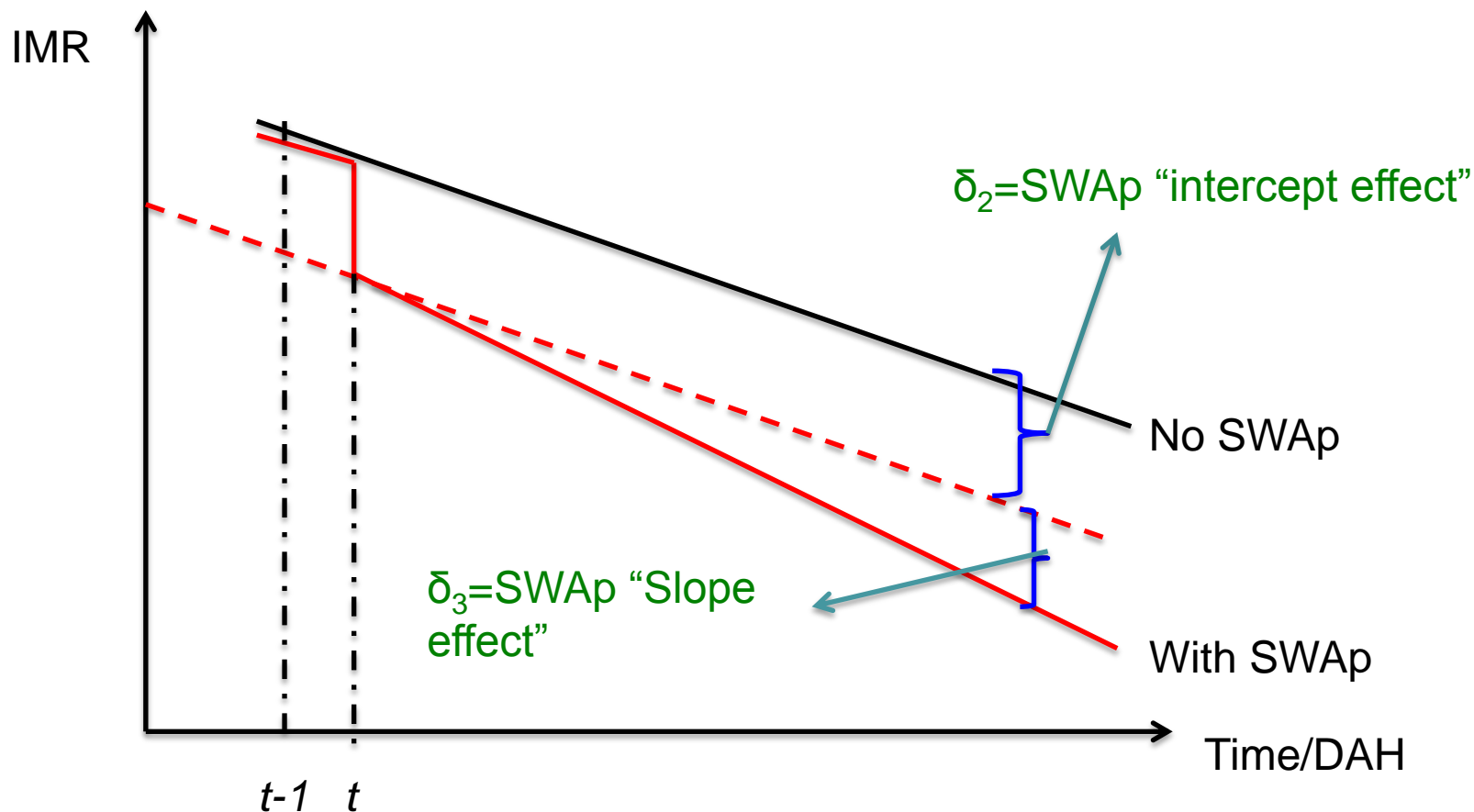
Impact of SWAp on IMR: Main sample.

	(1) Log(IMR)	(2) Log(IMR)	(3) IMR	(4) IMR
SWAp _{t-1}	-0.072** (0.034)	-0.067* (0.036)	-6.585** (2.860)	-5.464* (2.983)
Log(GDP/capita) _{t-1}	-0.146*** (0.042)	-0.127*** (0.031)	-6.585** (2.934)	-6.629** (2.925)
Log (education- aid/capita) _{t-1}	-0.003 (0.007)	0.003 (0.005)	-0.524 (0.564)	0.007 (0.434)
Government- effectiveness _{t-1}		-0.152** (0.064)		-11.542** (4.737)
Corruption-control _{t-1}		0.017 (0.059)		-2.088 (5.082)
Urbanisation (%) _t		-0.006 (0.007)		0.233 (0.556)
N	809	809	809	809
SWAp countries	24	24	24	24
Control countries	19	19	19	19

Standard errors in parentheses; * p < 0.10, ** p < 0.05, *** p < 0.01

Teasing out mediating effects (& controlling for DAH)

$$\log(\text{IMR})_{it} = \alpha_i + \delta_2 \cdot \text{SWAp}_{it-1} + \delta_3 \cdot (\text{SWAp} \cdot \text{DAH}/\text{pc})_{it-1} + \beta_1 \cdot \text{DAH}/\text{pc}_{it-1} + X_{it-1} + \mu_t + \varepsilon_{it}$$



Sensitivity tests of equation (7.1) when India and China are excluded from the control group

	(1) China excluded	(2) India excluded	(3) China & India excluded
	Log(IMR)	Log(IMR)	Log(IMR)
SWAp _{t-1}	-0.070* (0.035)	-0.068* (0.037)	-0.071* (0.036)
Log(GDP/capita) _{t-1}	-0.114*** (0.032)	-0.126*** (0.032)	-0.112*** (0.033)
Log (education- aid/capita) _{t-1}	0.003 (0.005)	0.003 (0.005)	0.003 (0.005)
Government- effectiveness _{t-1}	-0.135** (0.063)	-0.153** (0.064)	-0.136** (0.063)
Corruption control _{t-1}	0.003 (0.059)	0.017 (0.059)	0.003 (0.059)
Urbanisation (%) _t	-0.001 (0.008)	-0.006 (0.007)	-0.001 (0.008)