

Web Appendix: The Impact of Gavi on Vaccination Rates: Regression Discontinuity Evidence

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A Appendix

This appendix presents further details on our data set to (a) allow interested readers to inspect individual observations near the Gavi eligibility threshold which may have inordinate influence on our treatment effect estimates, and (b) enable other researchers to more easily replicate what we have done.

A.1 Data construction

Our dataset is a cross-national time-series dataset covering the period 2000-2013. We compile data from five sources: the WHO, UNICEF, World Bank, Gavi and IHME. With the exception of mortality rates, all data are available on an annual basis.

We restrict our sample to countries with gross national income per capita figures within two log points of Gavi's threshold, as defined by the World Bank in the first year of each phase. This mirrors the way in which eligibility is structured for all phases, whereby countries are designated as eligible or not at the beginning of the phase based on the most recent year of GNI data.

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[†]The most recent version of the paper can be downloaded at www.cgdev.org/vaccinesrd.

Table 1: Data sources

		Source
Income eligibility	Created using gross national income per capita, Atlas method (current US\$) data drawn from original PDFs of the World Bank's World Development Indicator (WDI) publications, when available. Data from the 2013 WDI report was not available in PDF format and was downloaded from the World Bank's DataBank using Stata. For several countries, these reports provide only an income category due to a lack of data. When an estimate for GNI is not available for low-income countries, we impute the mean GNI for LICs in that year. See Section A.7 for more information.	World Bank (1 2 3 4)
Treatment	Created from Gavi disbursement data 2000-2013, reported by program year, the year in which vaccines/programs are implemented.	Gavi
Immunization coverage	Percent of children who have completed a series of the following vaccines by age 1: diphtheria, pertussis and tetanus (DPT), hepatitis B (HepB), Haemophilus influenzae type B (Hib), measles and rotavirus (rota). For rota, coverage rates were imputed as 0 before the year the vaccine was introduced in a country. We use the WHO/UNICEF official coverage estimate (WUENIC) for years 1995-2013.	WHO
Income classification	Historical World Bank income group classifications	World Bank
Population	We use population estimates for the population under age 1, 5 and total population. This estimate is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship—except for refugees not permanently settled in the country of asylum.	World Bank
Gavi-purchased doses	Our estimate of the number of doses purchased by Gavi is constructed using Gavi's data on disbursements and UNICEF data on total doses purchased and total spending by vaccine worldwide. Estimates account for buffer stocks and country-reported (when unavailable, mean) wastage rates. We use disbursements from the previous year to estimate doses, as vaccination rates are calculated as children who have been vaccinated by age 1 and children vaccinated as a result of these doses will not be measured until the following year.	UNICEF Gavi

Table 1: Data sources (continued)

		Source
Vaccine wastage	Countries report vaccine-specific wastage rates in the Joint Reporting Form. When an estimate is unavailable, we impute the mean wastage rate for that vaccine and year.	WHO
Mortality rate	Probability of a child dying between birth and age 1 (infant mortality) or age 5 (under-5 mortality), expressed as a rate per 1,000 live births. Data is available in 5-year increments.	WHO
Disease-specific mortality rates	Probability of a child under age 5 dying due to diseases preventable by 6 vaccines, expressed as a rate per 100,000 population. Data is reported by cause (e.g. diphtheria) and aggregated by vaccine. GBD does not report deaths due to all diseases preventable by the 6 vaccines. For example, the pneumococcal and Hib vaccines prevent both meningitis and pneumonia caused by those types of bacteria, but GBD does not provide data on deaths due to pneumococcal or H influenzae type B pneumonia. Riley, et al. (1986) estimate that the pneumococcal vaccine prevented 50% of deaths due to lower respiratory infections (LRIs) in Papua New Guinea. ¹ We use this estimate to attribute 50% of LRIs to pneumococcal disease. Data is available for 1990, 2005 and 2010 (2008 for deaths due to rotavirus).	IHME
Health system financing	Vaccine financing data is drawn from the JRF, which began recording financing figures in 2006, and Gavi disbursement data. Government spending is drawn from the JRF and includes all funds allocated through the national government budget. Total spending on vaccines, as reported in the JRF, reports financing from all sources, including government, donors, out-of-pocket and informal private payments. Spending is expressed as a per infant rate using World Bank population figures. Data is available until 2013.	WHO World Bank Gavi
Non-income eligibility	Created using country official vaccination coverage rates, which Gavi used to determine eligibility for ISS and NVS funding during phases 1 and 2.	WHO

¹Riley, I. D., et al. (1986). "Pneumococcal vaccine prevents death from acute lower-respiratory-tract infections in Papua New Guinean children." *The Lancet* 328, no. 8512: 877-881.

A.2 Changes in eligibility

We’re particularly interested in countries whose eligibility status changed over time, and whether Gavi’s actual disbursement followed suit. As described in the main text, for the period covered by our sample income eligibility was evaluated at four points in time, using GNI data from 1998, 2003, 2009, 2010 and 2011. Twenty-one countries experienced a change in eligibility, either because their income changed or the eligibility line changed around them. These twenty-one countries are listed in Table 2. Of these twenty-one countries, seventeen initially qualified and then subsequently became ineligible.² In fourteen of these seventeen cases, Gavi continued to disburse aid in subsequent periods – exceptions being

²Other cases are more complex. Bolivia entered eligibility partway through phase 1 and subsequently exited eligibility, but received Gavi aid in all periods. Equatorial Guinea became eligible in phase 2, but has never received Gavi aid. Kiribati is the sole case of a country that ‘fell’ into eligibility and began receiving Gavi assistance for the first time after phase 1.

Table 2: Countries experiencing a change in Gavi eligibility over time

GAVI Phase:	Eligible?				Received GAVI aid?			
	1	2	3	4	1	2	3	4
Albania	Yes	No	No	No	Yes	Yes	Yes	Yes
Angola	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Armenia	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Azerbaijan	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Bhutan	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Bolivia	No	Yes	No	No	Yes	Yes	Yes	Yes
Bosnia and Herzegovina	Yes	No	No	No	Yes	Yes	Yes	No
China	Yes	No	No	No	Yes	Yes	No	No
Congo, Rep.	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Equatorial Guinea	No	Yes	No	No	No	No	No	No
Georgia	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Guyana	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Honduras	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Indonesia	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Kiribati	No	Yes	No	No	No	Yes	Yes	Yes
Moldova	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Mongolia	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Sri Lanka	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Timor-Leste	NA	Yes	No	No	No	No	No	Yes
Turkmenistan	Yes	No	No	No	Yes	Yes	No	No
Ukraine	Yes	Yes	No	No	Yes	Yes	No	No

The table lists the 21 countries whose eligibility status changed between Gavi phases. The last four columns report whether Gavi disbursed any aid to the country during the phase. Where eligibility is listed as “NA”, no GNI data is available.

Equatorial Guinea, China and Ukraine.³ Gavi's graduation policy allows countries which become ineligible to continue to receive funding support approved earlier for an agreed period of time, typically 5 years. This policy explains a number of the cases in which Gavi disbursed funding to ineligible countries.⁴

The bottom line here is that Gavi disbursement appears to be determined primarily by income eligibility in phase 1. In most but not all cases, subsequent changes to eligibility did not lead to the appearance or disappearance of a Gavi country program.

³Azerbaijan and Indonesia also experienced interruptions in disbursement after exiting eligibility, but both appeared to have active Gavi programs at the end of the study period.

⁴As a robustness check, we estimated the impact of Gavi aid using 1998 income levels and the original eligibility threshold for all phases and our estimates did not change substantively. This policy of providing funding to countries based on eligibility in earlier phases, if they had applied before becoming ineligible, is similar to our robustness check and we do not anticipate that it affects our estimates.

A.3 Non-income eligibility

Table 3: Testing enforcement of Gavi's non-income eligibility rules

	Immunization Services Support					New and Underused Vaccines Support				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
E	0.725*** (0.272)	0.228*** (0.0442)	-0.244 (0.223)	-0.931* (0.552)	-2.128** (0.924)	-2.210 (1.982)	-0.339*** (0.105)	3.006* (1.693)	-1.566 (2.056)	-3.445 (2.354)
$D\bar{P}T$			-2.215 (1.391)	-14.51 (9.018)	-60.99** (26.17)			15.99** (6.949)	38.15** (15.21)	44.57 (37.27)
$D\bar{P}T^2$			52.07 (33.72)	518.8** (221.1)				65.74** (30.17)	108.4 (208.4)	
$D\bar{P}T^3$					-1369.4** (576.8)				72.05 (320.6)	
$E \times D\bar{P}T$			1.214 (1.405)	11.87 (9.020)	59.44** (26.17)			-27.28*** (7.140)	-20.41 (17.46)	5.325 (39.91)
$E \times D\bar{P}T^2$				-55.19 (33.76)	-516.7** (221.1)				-114.9*** (33.59)	-298.7 (236.2)
$E \times D\bar{P}T^3$					1375.2** (576.8)				99.87 (320.4)	
Constant		0.0813*** (0.0287)	0.397* (0.219)	0.981* (0.549)	2.216** (0.922)		0.547*** (0.103)	3.851*** (1.455)	5.106*** (1.808)	5.299** (2.080)
Optimal b.w.	0.1					0.2				
Observations	1686	1852	1686	1686	1686	1686	1852	1686	1686	1686
R-squared		0.02	0.05	0.07	0.08		0.02	0.06	0.07	0.08

Note: Each column presents a separate OLS regression, the dependent variable is the Gavi treatment dummy. Standard errors are clustered at the country level.

A.4 Alternative counterfactuals

Table 4: Testing alternative counterfactuals

	Older Vaccines		Newer Vaccines			Placebo
	(1) Hep B	(2) DPT	(3) Hib	(4) Rota	(5) Pneumo	(6) Measles
<i>Bandwidth = 2</i>						
Linear	-55.7*** (11.0)	-10.3* (6.1)	-19.1 (11.8)	-10.4 (10.1)	0.4 (8.0)	-8.6 (5.9)
Quadratic	-50.1*** (17.1)	-0.6 (8.7)	-10.8 (19.4)	-2.9 (9.0)	-2.4 (7.2)	1.1 (8.4)
Obs.	1755	1755	1755	803	667	1755
No. of countries	149	149	149	147	147	149
<i>Bandwidth = 1</i>						
Linear	-42.8*** (15.0)	-3.0 (7.8)	-14.8 (16.4)	1.3 (9.3)	5.6 (7.2)	-0.010 (7.7)
Quadratic	-60.6* (34.5)	12.1 (13.9)	-4.3 (38.9)	1.5 (32.9)	12.1 (110.7)	12.7 (12.0)
Obs.	1011	1011	1011	444	363	1011
No. of countries	101	101	101	96	96	101
<i>Bandwidth = 0.5</i>						
Linear	-55.7** (26.7)	9.7 (10.9)	-26.0 (28.4)	-13.5 (13.7)	-0.07 (0.08)	12.0 (9.6)
Quadratic	-26.3 (26.2)	17.8** (8.4)	-49.5 (52.3)	-15.9 (32.5)	-0.10 (0.3)	11.7 (8.0)
Obs.	435	435	435	194	161	435
No. of countries	64	64	64	53	53	64

Note: This table tests the null hypothesis that vaccination rates in Gavi-eligible countries would have remained at baseline levels without Gavi support. Coefficients less than zero imply Gavi’s official impact claims are biased upward by an incorrectly low counterfactual. Each coefficient in the table (i.e., each row and each column) represents the “treatment on the treated” effect from a separate regression. Each column uses a different dependent variable, listed in the column heading. Each row uses a different set of controls (i.e., polynomials of GNI and interactions with the Gavi treatment dummy). Standard errors are clustered at the country level.

A.5 Causes of under-5 mortality

In order to estimate the potential for subsidized vaccines disbursed by Gavi to impact child mortality, it is necessary to know how many people were dying of the relevant diseases in countries near Gavi's income threshold before Gavi began providing funding. Table 5 describes the diseases each vaccine protects against and the amount Gavi has spent on those vaccines between 2000 and 2013. In Figure 1, we estimate the disease-specific mortality rate at various points in time using estimates from the Global Burden of Disease (GBD) project. For each disease or group of diseases, we fit a local polynomial regression of death rates on baseline GNI for countries below the Gavi threshold of \$1,000 in 1998.

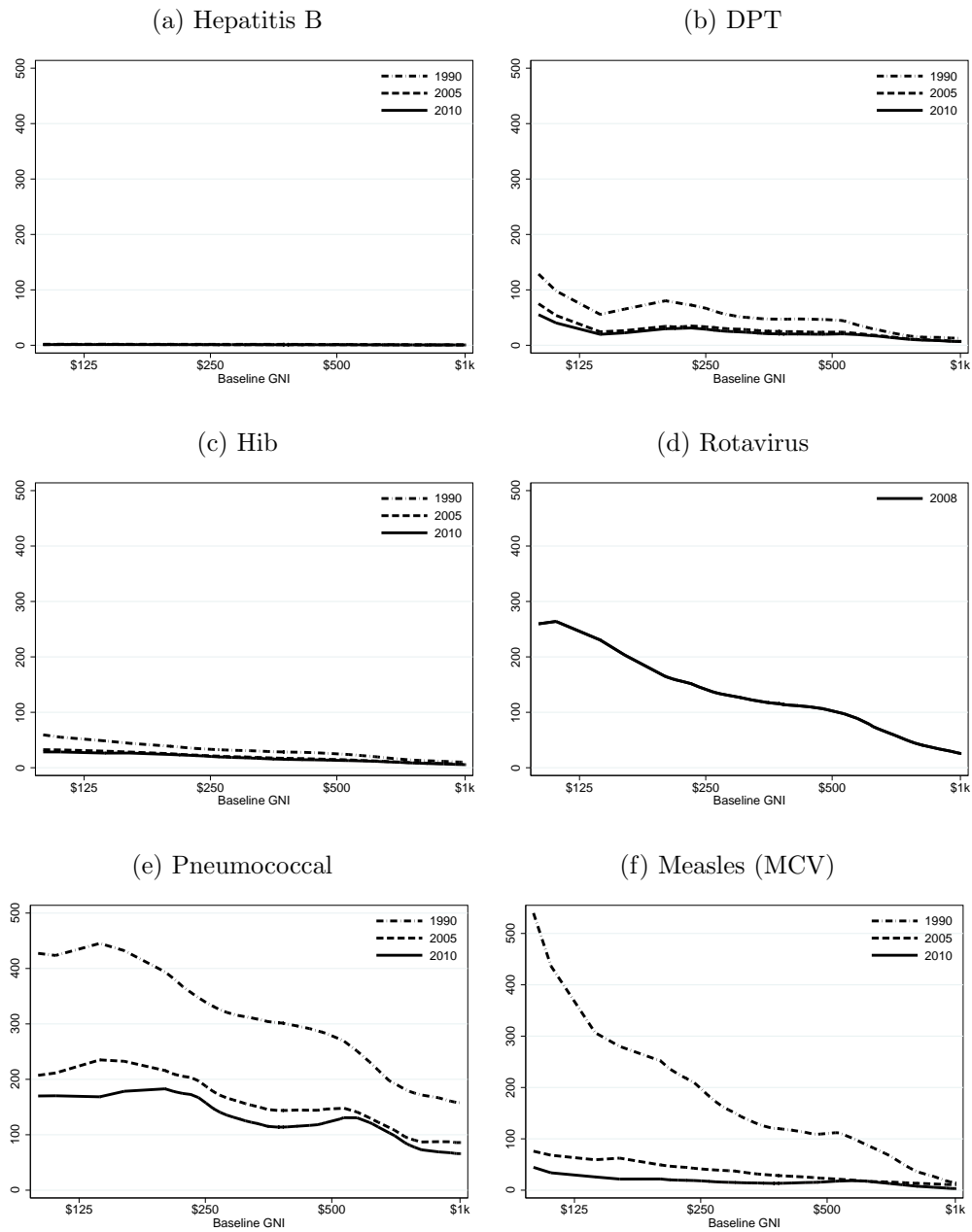
For all diseases, mortality rates are unsurprisingly declining over time and with per capita income. Overall, mortality rates before the widespread roll-out of Gavi aid were highest for measles, pneumococcal disease and rotavirus, though measles mortality had been dramatically reduced prior to Gavi's launch and the pneumococcal vaccine was not. The main conclusion we take from Figure 1 is that there was limited scope for further mortality reduction through Gavi-funded vaccines by the 2000s in countries near the eligibility threshold.

Table 5: Gavi vaccines, prices and purchases

Disease(s)	Description	Presentations	Vaccine price	Gavi purchases ⁵
Diphtheria, Pertussis, Tetanus (DPT)	Diphtheria is a potentially acute disease affecting respiratory tract, caused by a bacterial toxin, affecting mainly children. Pertussis is a potentially acute, highly contagious disease of the respiratory tract, caused by a bacteria, frequently complicates into pneumonia among children. Tetanus is an infectious bacterial disease causing muscular stiffness and spasms, primarily birth associated.	DPT, DTaP or pentavalent (TetraDTP-HepB-Hib)	\$.09-.20 per dose for DPT presentation \$1.30-3.50 per dose for pentavalent	DPT: N/A Incentivized through ISS support. Pentavalent: \$2.35 billion
Haemophilus influenza type b (Hib)	Hib causes bacterial meningitis and an important cause of severe pneumonia in children <5 yrs old	Monovalent Hib, DPT-Hib, pentavalent vaccine (see DTP)	\$1.58-3.20 per dose for DPT-Hib presentation	DPT-Hib: \$11.2 million Pentavalent: \$2.35 billion
Hepatitis B (Hep B)	Hepatitis B is a viral infection that attacks the liver and causes both acute and chronic disease. Most mortality occurs many years after the infection, therefore mainly in adulthood.	Monovalent hepatitis B vaccine, pentavalent (see DTP)	\$.16-.80 per dose for monovalent presentation \$.69-1.10 for DPT-HepB	DPT-HepB: \$158.6 million Pentavalent: \$2.35 billion
Rotavirus	Rotavirus causes severe, dehydrating diarrhea. Many strains of rotavirus exist.	RV1, RV5 (vaccines cover the referenced number of rotavirus strains)	\$3.50-5.00 per dose	\$187.6 million
Pneumococcal disease	S. pneumonia has >90 serotypes, and related infections cause meningitis, bacteraemia and pneumonia, and more common illnesses such as sinusitis and otitis media. More severe disease is called “invasive pneumococcal disease” (IPD).	PCV-7, PCV-10, PCV-13 (vaccines cover the referenced number of serotypes)	\$3.50-7.00 per dose	\$1.4 billion

⁵Cost per dose approximations are drawn from UNICEF awarded prices per dose, 2000-2012. Gavi purchase totals are from 2000-2013.

Figure 1: Death rates by disease for Gavi-eligible countries: 1990, 2005, 2010



Data are based on modeled estimates from the Global Burden of Disease database. Each graph presents a local polynomial regression of estimated death rates (age-standardized rates per 100,000 children) – at up to three points in time – for children under five years old on countries’ 1998 log per capita GNI.

A.6 Sample countries by Gavi phase

The rest of this appendix provides a partial list of the data used in the regressions, with a separate table for each of the five Gavi phases, as we define them (phase 1 from 2001 to 2005, phase 2 from 2006 to 2010, phase 3 in 2011, phase 4 in 2012 and phase 5 in 2013). We arrange each table in order by the GNI used to determine eligibility, i.e., the forcing variable in the regression discontinuity design. The logic of producing separate tables by phase is that eligibility was re-evaluated at the outset of each phase. As a consequence, our sample and the running variable, GNI, are updated in each phase. Our sample includes countries within a bandwidth of 2 log points of the eligibility cut-off at the time eligibility was evaluated. The tables also present the lower and upper bound for the other bandwidths used in our analyses.

For phase 1, the full sample of countries reporting data for 1998 GNI and at least one outcome variable is listed in Table 7. Eligibility for phase 1 was determined on the basis of 1998 GNI, as recorded in the 2000 World Development Indicators and reported in the second column of the table. The third column shows the average amount of aid received from Gavi per annum during phase 1, in millions of U.S. dollars. The rest of the table reports data for five outcome indicators: under-five mortality, DPT, hepatitis B and Hib vaccination coverage, and the intermediate outcome, national spending on immunization in millions of U.S. dollars.

For each outcome, the table lists the level recorded at the end of the period (2005 in the case of phase 1) and the annualized change from beginning to end (2000 to 2005). As seen, data for mortality rates and national spending are particularly incomplete. The end-line national spending data is from 2006 rather than 2005. No spending data is available prior to 2006, and thus no changes over time are available for phase 1.

The same information is presented for Gavi phases 2, 3, 4 and 5 in Tables 8, 9, 10 and 11 respectively. Data coverage improves over time. Note, however, that under-five mortality data is not available for 2011 and 2013, and expenditure data is not available for 2013, creating missing columns in tables 9, 10 and 11.

Table 6: Gavi Phase I Sample

Country	1998	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
	GNI		'05	$\Delta_{/00-/'05}$	'05	$\Delta_{/00-/'05}$	'05	$\Delta_{/00-/'05}$	'05	$\Delta_{/00-/'05}$	'06	$\Delta_{/00-/'06}$
Sierra Leone	140	0.4	216	-19	65	21	0	0	0	0		
Burundi	140	2.1	134	-16	87	7	87	87	87	87		
Guinea-Bissau	160	0.1	156	-19	68	19	0	0	0	0		
Niger	200	0.8	174	-53	45	11	0	0	0	0		
Eritrea	200	0.4	70	-19	96	15	96	96	0	0		
Mozambique	210	3.3	132	-34	80	10	75	75	0	0		
Nepal	210	2.0	61	-22	75	1	41	41	0	0	6.1	
Malawi	210	5.6	120	-54	93	18	93	93	93	93		
Tanzania	220	5.7	90	-41	90	11	90	90	0	0	7.0	
Rwanda	230	3.8	107	-76	95	5	95	95	95	95	10.6	
Chad	230	0.3	176	-13	25	-11	0	0	0	0	2.8	
Burkina Faso	240	1.1	160	-27	82	37	0	0	0	0	14.7	
Mali	250	1.5	173	-47	77	34	83	83	3	3	19.0	
Madagascar	260	2.4	81	-27	85	28	81	81	0	0	5.1	
Cambodia	260	1.2	63	-47	82	23	0	0	0	0	8.2	
Sao Tome	270	0.0	70	-17	97	15	96	96	0	0		
Yemen, Rep.	280	2.5	78	-19	85	9	86	71	55	55	4.6	
Sudan	290	1.1	91	-16	78	16	22	22	0	0	15.0	
CAR	300	0.2	157	-8	54	17	0	0	0	0	0.4	
Nigeria	300	2.0	158	-30	36	7	18	18	0	0	107.2	
Uganda	310	12.7	109	-38	64	12	64	64	64	64	26.9	
Lao PDR	320	0.8	98	-22	49	-2	49	49	0	0	5.4	
Togo	330	0.4	112	-10	82	18	0	0	0	0		
Zambia	330	4.1	127	-42	82	-3	82	82	82	82		
Gambia, The	340	0.6	95	-22	95	15	95	4	95	5		
Bangladesh	350	6.6	68	-20	93	11	45	45	0	0	23.0	
Kenya	350	11.7	97	-13	76	-6	76	76	76	76	55.8	
Vietnam	350	2.1	26	-5	95	-1	94	94	0	0	10.6	
Bandwidth 1 lower bound												
Tajikistan	370	0.5	74	-17	84	1	81	81	0	0		
Nicaragua	370	0.0	32	-9	86	3	86	3	86	3	8.1	
Comoros	370	0.1	94	-5	68	-2	68	68	0	0	0.4	
Afghanistan*	371	1.2	118	-16	58	34	0	0	0	0	40.0	
Myanmar*	371	2.8	67	-12	73	-9	62	62	0	0		
Bosnia and Herzegovina*	371	0.0	9	-1	93	8	93	93	50	50		
Turkmenistan*	371	0.2	67	-12	99	2	99	99	0	0		
Somalia*	371	0.2	171	0	35	2	0	0	0	0		
Liberia*	371	0.3	119	-58	60	14	0	0	0	0	3.1	
Korea, Dem. Rep.*	371	0.7	33	-27	79	23	92	92	0	0		
Angola	380	0.8	194	-9	47	16	0	0	0	0	14.0	
Mongolia	380	0.1	43	-20	99	5	98	5	28	28		
Moldova	380	0.1	23	-7	98	3	99	7	0	0		
Kyrgyz Rep.	380	0.2	40	-10	98	-1	97	53	0	0	0.9	
Benin	380	1.0	120	-28	70	-8	70	70	35	35		
Ghana	390	6.5	88	-15	84	-4	84	84	84	84		
Haiti	410	0.3	91	-15	60	11	0	0	0	0	1.7	
Mauritania	410	0.2	102	-9	71	20	42	42	0	0		
India	440	3.8	75	-16	67	7	8	8	0	0	98.6	
Armenia	460	0.1	23	-7	90	-3	91	36	0	0		
Pakistan	470	8.9	101	-12	77	15	70	70	0	0	33.6	
Bhutan	470	0.1	61	-19	95	3	95	-3	0	0	1.3	
Azerbaijan	480	0.3	51	-21	75	-1	49	49	0	0		
Senegal	520	1.7	99	-40	84	32	84	84	18	18		
Guinea	530	0.4	135	-36	59	13	0	0	0	0	4.2	
Lesotho	570	0.1	123	9	89	6	87	87	0	0		
Bandwidth .5 lower bound												
Cameroon	610	2.1	124	-26	80	18	79	79	0	0	6.9	
Zimbabwe	620	0.3	97	-6	68	-10	65	-14	0	0		
Indonesia	640	5.4	42	-11	72	-3	65	0	0	0		
Congo, Rep.	680	0.2	113	-5	62	29	0	0	0	0	2.7	
Cote d'Ivoire	700	1.8	131	-14	76	11	76	76	0	0	12.2	
Honduras	740	0.1	31	-8	98	4	98	4	98	4	8.2	
China	750	6.2	24	-13	87	2	84	24	0	0		
Solomon Islands	760	0.0	36	1	78	-4	73	-4	0	0		
Guyana	780	0.2	42	-5	93	5	93	93	93	93	1.5	

Table 6: Gavi Phase I Sample (continued)

Country	1998	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
	GNI		'05	$\Delta_{/00-/'05}$	'05	$\Delta_{/00-/'05}$	'05	$\Delta_{/00-/'05}$	'05	$\Delta_{/00-/'05}$	'06	$\Delta_{/00-/'06}$
Albania	810	0.1	22	-6	98	1	98	2	0	0	3.8	
Sri Lanka	810	0.4	13	-4	99	0	99	99	0	0	10.0	
PNG	890	0.0	75	-4	61	2	63	6	0	0	3.8	
Uzbekistan	950	0.8	51	-11	99	0	99	99	0	0		
Georgia	970	0.1	26	-9	84	4	74	19	0	0	1.2	
Ukraine	980	0.5	15	-4	96	-3	97	93	0	0	35.7	
Eligibility threshold												
Bolivia	1010	0.1	58	-20	85	10	85	8	85	8		
Syria	1020	0.0	19	-5	80	-4	83	4	80	80	21.0	
Philippines	1050	0.0	36	-4	89	11	49	42	0	0		
Samoa	1070	0.0	19	-2	64	-35	60	-36	0	0	0.0	
Eq. Guinea	1110	0.0	125	-18	39	5	0	0	0	0		
Maldives	1130	0.0	24	-21	98	0	98	2	0	0		
Jordan	1150	0.0	24	-4	95	4	95	2	95	95	8.5	
Kiribati	1170	0.0	66	-5	79	-11	50	-40	0	0		
Cabo Verde	1200	0.0	29	-9	95	5	93	93	0	0		
Bulgaria	1220	0.0	16	-5	96	3	96	2	0	0		
Morocco	1240	0.0	41	-10	98	3	96	53	0	0	5.2	
Vanuatu	1260	0.0	22	-2	68	-3	61	-9	0	0		
Egypt, Arab Rep.	1290	0.0	31	-14	98	0	98	0	0	0	52.4	
Macedonia	1290	0.0	14	-2	97	2	53	53	0	0		
Kazakhstan	1340	0.0	33	-11	98	1	94	-5	0	0		
Romania	1360	0.0	21	-5	97	-2	98	0	0	0		
Swaziland	1400	0.0	127	6	86	2	95	12	0	0	1.1	
Ecuador	1520	0.0	29	-5	94	6	94	56	94	94	9.0	
Algeria	1550	0.0	26	-8	88	2	83	83	0	0		
Guatemala	1640	0.0	41	-9	87	6	87	87	87	87	7.1	
Bandwidth .5 upper bound												
Iran	1650	0.0	26	-9	95	-4	94	-5	0	0	10.8	
Suriname	1660	0.0	26	-7	83	12	83	83	83	83	2.6	
Jamaica	1740	0.0	21	-3	99	6	99	99	99	99	7.8	
Tonga	1750	0.0	16	-2	99	4	99	2	99	99		
Paraguay	1760	0.0	28	-5	96	10	92	92	93	93	9.1	
Dominican Rep.	1770	0.0	34	-6	87	9	87	19	87	87		
Micronesia, Fed. Sts.	1800	0.0	48	-6	94	9	91	4	74	-1	0.8	
El Salvador	1850	0.0	23	-9	89	-10	89	-10	89	89	9.9	
Namibia	1940	0.0	67	-6	86	7	0	0	0	0		
Tunisia	2060	0.0	23	-7	98	1	97	3	80	80	3.8	
Thailand	2160	0.0	18	-5	98	1	96	1	0	0		
Belarus	2180	0.0	9	-5	99	0	99	29	0	0		
Fiji	2210	0.0	22	-2	96	6	99	1	99	1		
Russia	2260	0.0	17	-7	98	2	97	97	0	0		
Latvia	2420	0.0	13	-5	99	3	98	3	94	15		
Peru	2440	0.0	28	-12	77	-21	94	94	94	51		
Colombia	2470	0.0	22	-4	93	14	93	15	93	28	40.9	
Lithuania	2540	0.0	10	-2	94	0	95	-3	61	59		
St. Vincent	2560	0.0	23	1	99	1	99	99	99	99		
Belize	2660	0.0	21	-4	96	5	96	20	96	96	0.2	
Bandwidth 1 upper bound												
Costa Rica	2770	0.0	10	-3	91	3	90	1	89	-3		
Panama	2990	0.0	23	-3	92	-6	92	92	92	92	8.7	
Botswana	3070	0.0	67	-19	96	-1	92	6	0	0	0.4	
Dominica	3150	0.0	14	-2	98	-1	0	0	0	0		
Turkey	3160	0.0	24	-14	90	5	85	14	0	0		
Grenada	3250	0.0	15	-1	99	2	99	99	99	66	0.0	
South Africa	3310	0.0	79	5	72	-1	74	1	72	-1		
Estonia	3360	0.0	7	-4	96	3	95	95	37	37		
Venezuela, RB	3530	0.0	18	-3	87	10	88	83	87	85		
Lebanon	3560	0.0	14	-6	77	-6	77	-6	77	77	1.3	
St. Lucia	3660	0.0	18	1	95	25	95	95	95	95		
Malaysia	3670	0.0	8	-2	96	-2	96	-1	85	85		
Slovak Republic	3700	0.0	10	-2	99	0	99	1	99	40		
Mauritius	3730	0.0	16	-3	97	9	97	9	0	0		
Mexico	3840	0.0	20	-6	98	1	98	1	98	1		
Poland	3910	0.0	8	-2	99	1	98	-1	22	22		

Table 6: Gavi Phase I Sample (continued)

Country	1998	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
	GNI		'05	$\Delta_{/00-/'05}$	'05	$\Delta_{/00-/'05}$	'05	$\Delta_{/00-/'05}$	'05	$\Delta_{/00-/'05}$	'06	$\Delta_{/00-/'06}$
Gabon	4170	0.0	79	-7	45	0	28	28	0	0	1.9	
Hungary	4510	0.0	8	-3	99	0	0	0	99	0		
Trinidad and Tobago	4520	0.0	25	-3	95	5	95	95	95	21		
Croatia	4620	0.0	7	-2	96	3	0	0	96	96		
Brazil	4630	0.0	23	-10	96	-2	92	-2	96	6	330.8	
Chile	4990	0.0	9	-2	91	0	0	0	91	0	27.7	
Czech Republic	5150	0.0	5	-1	97	-1	99	99	97	97		
Uruguay	6070	0.0	16	-1	96	6	96	4	96	8	3.5	
St. Kitts and Nevis	6190	0.0	13	-5	99	1	99	0	99	87		
Seychelles	6420	0.0	14	0	99	1	99	1	0	0		
Saudi Arabia	6910	0.0	15	-7	96	1	97	4	96	96		

* GNI was imputed as the mean GNI for LICs in 1998.

Table 7: Gavi Phase II Sample

Country	2003	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
	GNI		'10	$\Delta_{/05-/'10}$	'10	$\Delta_{/05-/'10}$	'10	$\Delta_{/05-/'10}$	'10	$\Delta_{/05-/'10}$	'10	$\Delta_{/06-/'10}$
Guinea-Bissau	140	0.5	137	-19	80	12	76	76	76	76		
Sierra Leone	150	3.4	193	-23	86	21	86	86	86	86		
Malawi	160	10.2	83	-37	93	0	93	0	93	0	10.6	
Eritrea	190	1.1	56	-14	90	-6	90	-6	99	99		
Niger	200	5.3	127	-47	70	25	70	70	70	70	10.4	
Tajikistan	210	1.3	63	-12	93	9	93	12	93	93	3.0	
Mozambique	210	3.6	101	-30	74	-6	74	-1	74	74	14.5	
Rwanda	220	4.6	64	-43	97	2	97	2	97	2	7.5	-3.1
Chad	240	2.9	159	-17	39	14	39	39	39	39	4.2	1.4
Nepal	240	6.8	46	-15	82	7	82	41	0	0	12.9	6.8
Uganda	250	12.1	78	-30	80	16	80	16	80	16	13.9	-13.0
CAR	260	1.7	138	-19	45	-9	45	45	45	45		
Gambia, The	270	0.9	78	-17	97	2	97	2	97	2		
Mali	290	6.5	138	-35	76	-1	76	-7	76	73	31.1	12.1
Madagascar	290	6.8	63	-19	70	-15	70	-11	71	71	8.5	3.4
Tanzania	300	7.7	62	-28	91	1	91	1	91	91	20.7	13.7
Burkina Faso	300	10.1	115	-45	91	9	91	91	91	91	11.3	-3.4
Sao Tome	300	0.1	57	-13	98	1	98	2	98	98	0.5	
Cambodia	300	2.9	44	-20	92	10	92	92	92	92	9.6	1.5
Togo	310	2.1	101	-11	83	1	83	83	83	83	9.5	
Ghana	320	11.0	76	-12	94	10	94	10	94	10		
Kyrgyz Rep.	340	1.0	31	-9	96	-2	96	-1	96	96		
Lao PDR	340	0.9	78	-20	74	25	74	25	74	74	4.3	-1.1
Nigeria	350	18.9	132	-26	54	18	49	31	0	0	27.3	-79.9
Bandwidth 1 lower bound												
Myanmar*	380	2.4	56	-11	90	17	90	28	0	0		
Afghanistan*	380	15.4	104	-14	66	8	66	66	66	66		
Somalia*	380	0.0	156	-14	45	10	0	0	0	0		
Zimbabwe*	380	2.9	97	1	89	21	89	24	89	89		
Korea, Dem. Rep.*	380	2.0	31	-1	93	14	92	0	0	0	3.0	
Zambia	380	6.0	100	-27	83	1	83	1	83	1		
Haiti	400	0.0	175	85	67	7	0	0	0	0		
Kenya	400	18.0	79	-18	83	7	83	7	83	7	7.4	-48.4
Bangladesh	400	22.6	47	-21	94	1	94	49	94	94	68.0	45.0
Mauritania	400	0.7	89	-13	64	-7	64	22	64	64		
Uzbekistan	420	3.2	43	-8	99	0	99	0	99	99		
Guinea	430	2.7	110	-26	64	5	64	64	64	64		
Benin	440	4.8	96	-24	76	6	83	13	83	48	6.6	
Comoros	450	0.1	83	-11	74	6	74	6	74	74	1.3	0.9
Sudan	460	11.7	78	-13	90	12	75	53	75	75	17.1	2.1
Timor-Leste	460	0.0	62		72		72		0			
Mongolia	480	0.7	30	-13	96	-3	96	-2	96	68		
Vietnam	480	8.5	23	-3	93	-2	88	-6	63	63	22.3	11.8
PNG	500	1.2	67	-8	56	-5	56	-7	56	56	1.5	-2.3
Yemen, Rep.	520	9.3	64	-14	87	2	87	1	87	32		
Pakistan	520	48.3	90	-11	82	5	82	12	86	86	42.1	8.5

Table 7: Gavi Phase II Sample (continued)

Country	2003 GNI	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
			'10	$\Delta_{'05-'10}$	'10	$\Delta_{'05-'10}$	'10	$\Delta_{'05-'10}$	'10	$\Delta_{'05-'10}$	'10	$\Delta_{'05-'10}$
India	540	5.3	61	-14	72	5	37	29	0	0	98.4	-0.2
Senegal	540	4.9	67	-32	89	5	89	5	89	71		
Solomon Islands	560	0.1	33	-3	79	1	79	6	79	79	2.1	
Moldova	590	0.3	19	-4	90	-8	98	-1	63	63	1.2	
Bandwidth .5 lower bound												
Lesotho	610	0.3	108	-15	93	4	93	6	94	94		
Cameroon	630	6.6	103	-22	84	4	84	5	84	84	30.8	23.8
Bhutan	630	0.1	48	-13	91	-4	91	-4	0	0	0.4	-0.8
Congo, Rep.	650	1.4	102	-12	74	12	74	74	74	74		
Cote d'Ivoire	660	5.0	114	-17	85	9	85	9	85	85	10.4	-1.8
Eq. Guinea	700	0.0	107	-18	44	5	0	0	0	0		
Angola	740	8.8	173	-21	91	44	91	91	91	91	16.2	2.2
Nicaragua	740	1.3	26	-6	98	12	98	12	98	12	21.0	12.9
Georgia	770	0.3	22	-4	91	7	95	21	67	67	3.3	2.1
Indonesia	810	4.5	34	-8	81	9	83	18	0	0	66.5	
Azerbaijan	820	0.2	39	-13	81	6	80	31	0	0	6.4	
Kiribati	860	0.0	63	-3	91	12	91	41	91	91		
Bolivia	900	2.0	45	-14	91	6	91	6	91	6	13.2	
Guyana	900	0.2	37	-4	95	2	95	2	95	2	0.3	-1.2
Djibouti	910	0.2	86	-13	88	17	88	88	88	88	1.6	0.8
Sri Lanka	930	2.7	10	-3	99	0	99	0	99	99	16.1	6.1
Armenia	950	0.2	18	-5	94	4	94	3	48	48		
Honduras	970	2.0	25	-6	95	-3	95	-3	95	-3	15.4	7.2
Ukraine	970	0.2	12	-3	52	-44	48	-49	51	51		
Eligibility threshold												
Philippines	1080	0.0	32	-5	79	-10	77	28	1	1		
China	1100	1.5	16	-8	99	12	99	15	0	0		
Paraguay	1110	0.0	24	-4	89	-7	89	-3	89	-4	8.6	-0.5
Turkmenistan	1120	0.1	56	-10	96	-3	96	-3	58	58		
Syria	1160	0.0	15	-4	80	0	84	1	80	0		
Vanuatu	1180	0.0	19	-3	68	0	59	-2	0	0		
Morocco	1310	0.0	34	-7	99	1	98	2	99	99		
Swaziland	1350	0.0	92	-35	89	3	89	-6	89	89	2.2	1.1
Egypt, Arab Rep.	1390	0.0	23	-8	97	-1	97	-1	0	0		
Samoa	1440	0.0	18	-1	87	23	87	27	87	87	0.2	0.1
Cabo Verde	1440	0.0	24	-5	99	4	98	5	0	0		
Tonga	1490	0.0	14	-2	99	0	99	0	99	0		
Bosnia and Herzegovina	1530	0.3	8	-1	89	-4	89	-4	83	33		
Belarus	1600	0.0	6	-3	98	-1	96	-3	0	0		
Bandwidth .5 upper bound												
Albania	1740	0.2	18	-4	99	1	99	1	99	99	2.2	-1.6
Kazakhstan	1780	0.0	22	-11	99	1	99	5	96	96		
Colombia	1810	0.0	19	-3	88	-5	88	-5	88	-5	58.8	17.9
Ecuador	1830	0.0	25	-4	99	5	98	4	99	5	50.1	41.1
Jordan	1850	0.0	20	-3	98	3	98	3	98	3		
Guatemala	1910	0.0	34	-7	94	7	94	7	94	7	13.0	5.8
Algeria	1930	0.0	22	-5	95	7	95	12	95	95		
Namibia	1930	0.0	45	-22	83	-3	83	83	83	83		
Macedonia	1980	0.0	10	-4	95	-2	90	37	89	89		
Iran	2010	0.0	19	-7	99	4	99	5	0	0	17.0	6.2
Micronesia, Fed. Sts.	2070	0.0	41	-7	85	-9	88	-3	70	-4	2.0	1.2
Bulgaria	2130	0.0	13	-3	94	-2	95	-1	91	91		
Dominican Rep.	2130	0.0	29	-5	88	1	84	-3	81	-6	3.1	
Peru	2140	0.0	20	-8	93	16	93	-1	93	-1	137.6	
Thailand	2190	0.0	14	-3	99	1	98	2	0	0	26.6	
Tunisia	2240	0.0	18	-5	98	0	98	1	0	-80	2.8	-1.0
Fiji	2240	0.0	23	0	99	3	99	0	99	0		
Romania	2260	0.0	14	-8	94	-3	98	0	0	0		
Suriname	2280	0.0	22	-4	96	13	86	3	86	3	1.4	-1.2
El Salvador	2340	0.0	17	-6	89	0	89	0	89	0	12.5	2.6
Maldives	2350	0.0	13	-11	96	-2	97	-1	0	0		
Russia	2610	0.0	12	-5	97	-1	97	0	0	0		
Marshall Islands	2710	0.0	39	-1	94	17	97	8	92	23	2.0	2.0
Bandwidth 1 upper bound												
Brazil	2720	0.0	16	-7	98	2	96	4	96	0	665.5	334.7

Table 7: Gavi Phase II Sample (continued)

Country	2003 GNI	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
			'10	$\Delta_{/05-/'10}$	'10	$\Delta_{/05-/'10}$	'10	$\Delta_{/05-/'10}$	'10	$\Delta_{/05-/'10}$	'10	$\Delta_{/05-/'10}$
South Africa	2750	0.0	53	-26	66	-6	74	0	66	-6		
Turkey	2800	0.0	16	-8	97	7	96	11	97	97	263.9	
Jamaica	2980	0.0	18	-3	94	-5	94	-5	94	-5	9.2	1.4
St. Vincent	3310	0.0	24	1	99	0	99	0	99	0	0.0	
Dominica	3330	0.0	13	-1	98	0	98	98	98	98		
Gabon	3340	0.0	67	-12	67	22	67	39	67	67	3.2	1.3
Belize	3370	0.0	19	-2	96	0	96	0	96	0	1.9	1.7
Venezuela, RB	3490	0.0	16	-2	78	-9	78	-10	78	-9	31.1	
Botswana	3530	0.0	58	-9	96	0	95	3	0	0	0.9	0.5
Grenada	3710	0.0	14	-1	97	-2	97	-2	97	-2	0.1	0.1
Argentina	3810	0.0	15	-2	94	-4	94	6	94	6	56.1	22.4
Uruguay	3820	0.0	9	-7	95	-1	95	-1	95	-1	7.5	4.0
Malaysia	3880	0.0	8	0	96	0	96	0	95	10		
Lebanon	4040	0.0	10	-4	81	4	81	4	81	4	2.8	1.5
St. Lucia	4050	0.0	18	-0	97	2	97	2	97	2	0.1	
Panama	4060	0.0	20	-3	94	2	94	2	94	2	18.6	9.9
Mauritius	4100	0.0	15	-1	99	2	99	2	99	99		
Costa Rica	4300	0.0	10	-0	88	-3	89	-1	90	1	34.8	
Chile	4360	0.0	9	0	92	1	92	92	92	1	50.1	22.4
Latvia	4400	0.0	9	-3	91	-8	91	-7	90	-4		
Lithuania	4500	0.0	7	-3	95	1	94	-1	95	34		
Slovak Republic	4940	0.0	8	-2	99	0	99	0	99	0		
Poland	5280	0.0	6	-2	99	0	98	0	99	77		
Croatia	5370	0.0	5	-2	97	1	97	97	97	1		
Estonia	5380	0.0	4	-3	94	-2	94	-1	94	57		
Mexico	6230	0.0	17	-2	95	-3	93	-5	95	-3	485.7	
Hungary	6350	0.0	7	-2	99	0	0	0	99	0		
Palau	6500	0.0	22	-3	69	-29	80	-18	66	-32	0.2	
St. Kitts and Nevis	6630	0.0	10	-3	95	-4	96	-3	96	-3		
Czech Republic	7150	0.0	4	-1	99	2	99	0	99	2		

* GNI was imputed as the mean GNI for LICs in 2003.

Table 8: Gavi Phase III Sample

Country	2009 GNI	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
			'11	$\Delta_{/10-/'11}$	'11	$\Delta_{/10-/'11}$	'11	$\Delta_{/10-/'11}$	'11	$\Delta_{/10-/'11}$	'11	$\Delta_{/10-/'11}$
Malawi	290	10.8			97	4	97	4	97	4	10.2	-0.4
Afghanistan	310	16.3			68	2	68	2	68	2		
Eritrea	320	1.5			96	6	96	6	99	0	1.5	
Ethiopia	330	57.1			65	4	65	3	65	3		
Niger	340	10.3			75	5	75	5	75	5		
Sierra Leone	340	3.9			89	3	89	3	89	3	3.6	
Zimbabwe	360	3.0			93	4	93	4	93	4		
Guinea	370	3.6			63	-1	63	-1	63	-1	4.1	
Madagascar	430	4.9			73	3	73	3	73	2	4.4	-4.1
Nepal	440	2.8			92	10	92	10	92	92	13.3	0.4
Mozambique	440	6.1			76	2	76	2	76	2	17.7	3.2
Togo	440	2.3			85	2	85	2	85	2	10.7	1.2
Gambia, The	440	1.8			96	-1	96	-1	96	-1		
CAR	450	3.3			47	2	47	2	47	2	5.0	
Uganda	460	12.5			82	2	82	2	82	2		
Rwanda	490	10.6			97	0	97	0	97	0		
Tanzania	500	14.3			90	-1	90	-1	90	-1	21.0	0.3
Guinea-Bissau	510	0.6			80	0	76	0	76	0	0.0	
Burkina Faso	510	2.5			91	0	91	0	91	0	12.3	1.0
Haiti*	538	0.0			68	1	0	0	0	0	1.9	
Korea, Dem. Rep.*	538	1.3			94	1	92	0	0	0	12.5	9.5
Myanmar*	538	0.3			84	-6	38	-52	0	0		
Somalia*	538	2.8			41	-4	0	0	0	0	8.0	
Bandwidth 1 lower bound												
Bangladesh	580	30.7			96	2	96	2	96	2	64.6	-3.4
Chad	600	7.2			33	-6	33	-6	33	-6	5.5	1.3
Cambodia	650	5.0			94	2	94	2	94	2	10.9	1.3

Table 8: Gavi Phase III Sample (continued)

Country	2009 GNI	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
			'11	Δ_{10-11}	'11	Δ_{10-11}	'11	Δ_{10-11}	'11	Δ_{10-11}	'11	Δ_{10-11}
Mali	680	24.7			72	-4	72	-4	72	-4	31.0	-0.1
Tajikistan	700	2.2			96	3	96	3	96	3	4.3	1.4
Benin	750	9.6			75	-1	85	2	84	1	11.7	5.1
Kenya	760	48.9			88	5	88	5	88	5	9.2	1.8
Comoros	810	0.2			83	9	83	9	83	9	1.0	-0.2
Kyrgyz Rep.	870	1.6			96	0	96	0	96	0	12.7	
Lao PDR	880	1.4			78	4	78	4	78	4	4.2	-0.1
Bandwidth .5 lower bound												
Solomon Islands	910	0.2			88	9	88	9	88	9	1.5	-0.7
Zambia	960	5.7			81	-2	81	-2	81	-2	34.6	
Lesotho	980	0.2			96	3	96	3	96	2	1.1	
Mauritania	990	1.5			75	11	75	11	75	11		
Pakistan	1000	33.6			74	-8	78	-4	75	-11	69.6	27.5
Nicaragua	1000	6.7			98	0	98	0	98	0	35.2	14.2
Vietnam	1000	15.5			95	2	95	7	95	32	32.5	10.2
Senegal	1040	3.7			92	3	92	3	92	3		
Yemen, Rep.	1060	24.1			81	-6	81	-6	81	-6	8.5	
Cote d'Ivoire	1070	5.5			62	-23	62	-23	62	-23	10.6	0.2
Uzbekistan	1100	4.4			99	0	99	0	99	0		
Sao Tome	1130	0.1			96	-2	96	-2	96	-2	0.5	-0.1
PNG	1180	1.4			61	5	61	5	61	5		
Nigeria	1190	18.2			30	-24	31	-18	0	0		
Ghana	1190	6.1			91	-3	91	-3	91	-3		
Cameroon	1190	25.0			82	-2	82	-2	82	-2	26.2	-4.6
India	1220	16.3			72	0	47	10	0	0	107.1	8.7
Sudan	1220	22.8			93	3	93	18	93	18	43.0	25.9
Djibouti	1280	0.2			87	-1	87	-1	87	-1	1.8	0.2
Eligibility threshold												
Moldova	1560	0.4			93	3	96	-2	78	15		
Bolivia	1630	3.7			95	4	95	4	95	4	12.6	-0.6
Mongolia	1630	0.8			99	3	99	3	99	3	2.2	
Philippines	1790	0.0			80	1	76	-1	14	13		
Honduras	1800	8.9			91	-4	91	-4	91	-4	24.8	9.4
Kiribati	1830	0.0			99	8	95	4	95	4		
Sri Lanka	1990	4.5			99	0	99	0	99	0	10.5	-5.6
Bhutan	2020	0.1			95	4	95	4	0	0	0.3	-0.2
Indonesia	2050	2.6			81	0	81	-2	0	0	66.9	0.4
Egypt, Arab Rep.	2070	0.0			96	-1	96	-1	0	0		
Congo, Rep.	2080	1.7			74	0	74	0	74	0	2.6	
Iraq	2210	0.0			79	5	77	5	0	0		
Paraguay	2250	0.0			89	0	89	0	89	0	19.2	10.6
Syria	2410	0.0			72	-8	66	-18	72	-8		
Timor-Leste	2460	0.0			67	-5	67	-5	0	0		
Swaziland	2470	0.0			91	2	91	2	91	2	2.8	0.6
Bandwidth .5 upper bound												
Micronesia, Fed. Sts.	2500	0.0			84	-1	83	-5	72	2		
Georgia	2530	0.6			94	3	92	-3	92	25	4.5	1.2
Vanuatu	2620	0.0			68	0	59	0	68	68		
Guatemala	2650	0.0			88	-6	88	-6	85	-9	13.3	0.4
Guyana	2660	0.6			93	-2	93	-2	93	-2	1.5	1.2
Morocco	2770	0.0			99	0	98	0	99	0		
Ukraine	2800	0.0			50	-2	21	-27	26	-25		
Samoa	2840	0.0			91	4	91	4	91	4	0.2	-0.0
Cabo Verde	3010	0.0			90	-9	90	-8	90	90		
Marshall Islands	3060	0.0			87	-7	89	-8	80	-12		
Armenia	3100	0.4			95	1	95	1	95	47		
Tonga	3260	0.0			99	0	99	0	99	0	0.1	
El Salvador	3370	0.0			89	0	89	0	89	0	15.1	2.6
Turkmenistan	3420	0.0			97	1	97	1	71	13		
China	3650	0.0			99	0	99	0	0	0		
Tunisia	3720	0.0			98	0	98	0	43	43	6.1	3.3
Belize	3740	0.0			95	-1	95	-1	95	-1	0.6	-1.3
Angola	3750	4.7			86	-5	86	-5	86	-5		
Thailand	3760	0.0			99	0	98	0	0	0	27.1	0.5
Fiji	3840	0.0			99	0	99	0	99	0		

Table 8: Gavi Phase III Sample (continued)

Country	2009	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
	GNI		'11	Δ_{10-11}	'11	Δ_{10-11}	'11	Δ_{10-11}	'11	Δ_{10-11}	'11	Δ_{10-11}
Maldives	3970	0.0			96	0	96	-1	0	0		
Ecuador	3970	0.0			99	0	98	0	99	0	53.0	2.9
Jordan	3980	0.0			98	0	98	0	98	0		
Albania	4000	0.4			99	0	99	0	99	0	2.4	0.1
Bandwidth 1 upper bound												
Peru	4200	0.0			91	-2	91	-2	91	-2	90.1	-47.5
Namibia	4270	0.0			82	-1	82	-1	82	-1		
Macedonia	4400	0.0			96	1	96	6	96	7		
Algeria	4420	0.0			95	0	95	0	95	0		
Iran	4530	0.0			99	0	99	0	0	0	17.0	0.0
Dominican Rep.	4550	0.0			84	-4	80	-4	71	-10	9.5	6.4
Jamaica	4590	0.0			92	-2	92	-2	91	-3	3.5	-5.7
Bosnia and Herzegovina	4700	0.4			88	-1	88	-1	85	2		
Suriname	4760	0.0			86	-10	86	0	86	0	1.2	-0.2
Azerbaijan	4840	2.2			87	6	84	4	36	36	7.0	0.6
Dominica	4900	0.0			98	0	98	0	98	0		
Colombia	4990	0.0			85	-3	85	-3	85	-3	100.2	41.4
St. Vincent	5130	0.0			96	-3	96	-3	96	-3	0.0	-0.0
St. Lucia	5190	0.0			99	2	99	2	99	2		
Cuba	5550	0.0			96	0	96	0	96	0	21.3	-1.4
Belarus	5560	0.0			98	0	98	2	21	21		
Grenada	5580	0.0			94	-3	94	-3	94	-3	0.1	-0.0
South Africa	5760	0.0			72	6	76	2	72	6		
Serbia	6000	0.0			94		94		93			
Bulgaria	6060	0.0			95	1	96	1	95	4	43.7	
Palau	6220	0.0			84	15	91	11	85	19	0.2	0.0
Botswana	6260	0.0			96	0	96	1	96	96	1.8	0.8
Costa Rica	6260	0.0			85	-3	84	-5	81	-9	6.1	-28.7
Panama	6570	0.0			87	-7	87	-7	87	-7	26.9	8.3
Montenegro	6650	0.0			95		91		90			
Kazakhstan	6920	0.0			99	0	99	0	95	-1		
Mauritius	7250	0.0			98	-1	98	-1	98	-1		
Malaysia	7350	0.0			96	0	96	0	95	0		
Gabon	7370	0.0			75	8	75	8	75	8	1.6	-1.6
Argentina	7550	0.0			92	-2	92	-2	92	-2	46.4	-9.7
Lebanon	8060	0.0			81	0	81	0	81	0	2.8	0.0
Brazil	8070	0.0			99	1	98	2	97	1	574.8	-90.7
Romania	8330	0.0			89	-5	96	-2	89	89		
Seychelles	8480	0.0			99	0	99	0	99	0	0.1	
Turkey	8720	0.0			97	0	96	0	97	0	368.2	104.3
Mexico	8960	0.0			97	2	98	5	97	2	1255.0	769.3
Uruguay	9010	0.0			95	0	95	0	95	0	8.5	1.1
Russia	9340	0.0			97	0	97	0	0	0		
Chile	9470	0.0			94	2	94	2	94	2	21.1	-29.0
Venezuela, RB	10090	0.0			78	0	78	0	78	0	46.6	15.4
St. Kitts and Nevis	10150	0.0			97	2	98	2	98	2	0.0	

* GNI was imputed as the mean GNI for LICs in 2009.

Table 9: Gavi Phase IV Sample

Country	2010	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
	GNI		'12	Δ_{11-12}	'12	Δ_{11-12}	'12	Δ_{11-12}	'12	Δ_{11-12}	'12	Δ_{11-12}
Malawi	330	25.0	71	-12	96	-1	96	-1	96	-1	10.2	0.0
Eritrea	340	0.5	52	-4	94	-2	94	-2	94	-5	1.7	0.3
Sierra Leone	340	5.2	182	-11	91	2	91	2	91	2	9.9	6.3
Niger	370	6.7	114	-13	74	-1	74	-1	74	-1		
Ethiopia	390	100.6	68	-8	69	4	69	4	69	4		
Guinea	400	3.1	101	-8	63	0	63	0	63	0	5.5	1.4
Afghanistan	410	9.5	99	-5	71	3	71	3	71	3	22.8	
Madagascar	430	12.2	58	-5	70	-3	70	-3	70	-3	20.0	15.6
Mozambique	440	6.9	90	-12	76	0	76	0	76	0	13.9	-3.8
Gambia, The	450	2.3	73	-5	98	2	98	2	98	2	2.2	
Zimbabwe	460	9.1	90	-7	95	2	95	2	95	2		

Table 9: Gavi Phase IV Sample (continued)

Country	2010 GNI	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
			'12	$\Delta_{/11-/'12}$	'12	$\Delta_{/11-/'12}$	'12	$\Delta_{/11-/'12}$	'12	$\Delta_{/11-/'12}$	'12	$\Delta_{/11-/'12}$
CAR	470	3.6	129	-9	47	0	47	0	47	0	5.8	0.8
Nepal	490	7.9	42	-4	90	-2	90	-2	90	-2	23.6	10.3
Togo	490	3.5	96	-6	84	-1	84	-1	84	-1	11.1	0.4
Uganda	500	12.5	69	-9	78	-4	78	-4	78	-4		
Somalia*	511	2.5	147	-9	42	1	0	0	0	0	7.8	-0.2
Korea, Dem. Rep.*	511	3.5	29	-3	96	2	94	2	32	32	17.7	5.2
Myanmar*	511	16.0	52	-4	84	0	55	17	0	0	26.3	
Rwanda	520	17.0	55	-9	98	1	98	1	98	1		
Tanzania	530	30.8	54	-8	92	2	92	2	92	2	26.4	5.4
Burkina Faso	550	5.5	102	-12	90	-1	90	-1	90	-1	12.3	0.0
Bandwidth 1 lower bound												
Guinea-Bissau	590	0.4	129	-8	80	0	76	0	76	0		
Mali	600	19.5	128	-10	74	2	74	2	74	2	30.7	-0.3
Chad	620	8.4	150	-9	45	12	45	12	45	12	8.4	2.9
Haiti	670	2.4	76	-100	68	0	0	0	0	0	1.8	-0.1
Bangladesh	700	29.7	41	-6	97	1	97	1	97	1	46.4	-18.2
Cambodia	750	4.9	40	-4	95	1	95	1	95	1	9.0	-1.9
Comoros	750	0.7	78	-5	86	3	86	3	86	3	0.7	-0.3
Benin	780	15.2	90	-7	76	1	85	0	85	1	8.2	-3.5
Kenya	790	47.7	73	-6	83	-5	83	-5	83	-5		
Tajikistan	800	2.9	58	-4	94	-2	94	-2	94	-2	4.1	-0.3
Kyrgyz Rep.	830	1.0	27	-4	96	0	96	0	96	0	2.6	-10.2
Bandwidth .5 lower bound												
Mauritania	1030	1.1	84	-5	80	5	80	5	80	5		
Solomon Islands	1030	0.6	31	-2	90	2	90	2	90	2	1.7	0.3
Lesotho	1040	0.3	100	-9	96	0	96	0	96	0	1.1	-0.0
Lao PDR	1050	1.6	72	-7	79	1	79	1	79	1	4.0	-0.2
Pakistan	1050	97.6	86	-4	72	-2	72	-6	72	-3	46.5	-23.1
Zambia	1070	10.9	89	-12	78	-3	78	-3	78	-3	34.6	0.0
Senegal	1090	10.4	60	-7	91	-1	91	-1	91	-1		
Nicaragua	1110	5.0	24	-2	98	0	98	0	98	0	21.1	-14.1
Cote d'Ivoire	1160	7.5	108	-6	82	20	82	20	82	20	11.4	0.7
Vietnam	1160	16.3	23	-0	97	2	97	2	97	2	31.3	-1.2
Yemen, Rep.	1170	26.4	60	-4	82	1	82	1	82	1	14.4	5.9
Cameroon	1180	23.3	95	-8	85	3	85	3	85	3	21.3	-4.9
Nigeria	1180	59.5	124	-9	26	-4	47	16	10	10		
Sao Tome	1200	0.3	53	-4	96	0	96	0	96	0	0.9	0.4
Ghana	1230	44.8	72	-4	92	1	92	1	92	1	37.6	
India	1270	21.9	56	-5	72	0	70	23	0	0	149.7	42.6
Sudan	1270	44.6	73	-5	92	-1	92	-1	92	-1	31.1	-11.8
Djibouti	1270	1.0	81	-5	81	-6	81	-6	81	-6	2.4	0.5
Uzbekistan	1280	3.3	40	-3	99	0	99	0	99	0		
PNG	1300	1.1	63	-4	63	2	63	2	63	2	5.3	
Eligibility threshold												
Bolivia	1810	1.4	41	-4	93	-2	93	-2	93	-2	14.4	1.8
Moldova	1810	0.6	18	-1	92	-1	94	-2	90	12		
Mongolia	1870	0.6	28	-3	99	0	99	0	99	0	1.8	-0.4
Bhutan	1870	0.2	45	-4	97	2	97	2	97	97		
Honduras	1870	5.4	23	-2	88	-3	88	-3	88	-3	14.0	-10.8
Kiribati	2000	0.1	60	-3	94	-5	94	-1	94	-1		
Philippines	2060	0.0	30	-2	86	6	70	-6	23	9		
Congo, Rep.	2150	3.5	96	-6	69	-5	69	-5	69	-5	5.4	2.8
Timor-Leste	2220	0.4	57	-5	83	16	83	16	0	0		
Sri Lanka	2240	2.8	10	-1	99	0	99	0	99	0	8.8	-1.7
Iraq	2340	0.0	34	-2	69	-10	61	-16	36	36		
Egypt, Arab Rep.	2420	0.0	21	-2	93	-3	93	-3	0	0		
Indonesia	2500	3.7	31	-3	83	2	83	2	0	0	67.2	0.3
Bandwidth .5 upper bound												
Vanuatu	2640	0.0	18	-1	68	0	59	0	68	0		
Georgia	2690	0.8	20	-2	92	-2	92	0	92	0	2.8	-1.7
Paraguay	2720	0.0	22	-2	87	-2	87	-2	87	-2	34.2	15.0
Micronesia, Fed. Sts.	2740	0.0	39	-2	81	-3	82	-1	66	-6		
Guatemala	2740	0.0	32	-2	96	8	96	8	96	11	30.4	17.1
Syria	2750	0.0	15	-0	45	-27	43	-23	45	-27		
Morocco	2850	0.0	31	-2	99	0	99	1	99	0		

Table 9: Gavi Phase IV Sample (continued)

Country	2010 GNI	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
			'12	Δ_{11-12}	'12	Δ_{11-12}	'12	Δ_{11-12}	'12	Δ_{11-12}	'12	Δ_{11-12}
Guyana	2870	0.5	35	-2	97	4	97	4	97	4	2.2	0.6
Swaziland	2950	0.0	80	-12	95	4	95	4	95	4	2.4	-0.4
Samoa	2980	0.0	18	-0	92	1	99	8	99	8	0.2	-0.0
Ukraine	3000	0.0	11	-1	76	26	46	25	83	57		
Armenia	3200	0.8	16	-2	95	0	95	0	95	0		
Cabo Verde	3270	0.0	22	-2	94	4	94	4	94	4		
Tonga	3290	0.0	13	-1	95	-4	95	-4	95	-4		
El Salvador	3380	0.0	16	-1	92	3	92	3	92	3	10.1	-5.0
Fiji	3630	0.0	22	-0	99	0	99	0	99	0		
Marshall Islands	3640	0.0	38	-1	80	-7	80	-9	67	-13		
Turkmenistan	3790	0.0	53	-4	97	0	98	1	97	26		
Belize	3810	0.0	18	-1	98	3	98	3	98	3	0.3	-0.3
Ecuador	3850	0.0	23	-2	99	0	98	0	99	0	48.1	-4.9
Angola	3940	15.5	164	-10	91	5	91	5	91	5		
Albania	3960	0.3	17	-1	99	0	99	0	99	0	2.5	0.1
Bandwidth 1 upper bound												
Thailand	4150	0.0	13	-1	99	0	98	0	0	0		
Tunisia	4160	0.0	16	-1	97	-1	97	-1	97	54	6.1	0.0
China	4270	0.0	14	-2	99	0	99	0	0	0		
Jordan	4340	0.0	19	-1	98	0	98	0	98	0		
Algeria	4390	0.0	20	-2	95	0	95	0	95	0		
Namibia	4510	0.0	39	-7	84	2	84	2	84	2		
Iran	4520	0.0	18	-2	99	0	98	-1	0	0	25.0	8.0
Macedonia	4570	0.0	7	-3	95	-1	98	2	95	-1		
Peru	4700	0.0	18	-2	95	4	95	4	95	4	122.3	32.2
Tuvalu	4760	0.0	30		97	1	97	1	97	1		
Bosnia and Herzegovina	4770	0.0	7	-1	92	4	92	4	87	2		
Jamaica	4800	0.0	17	-1	96	4	96	4	96	5	3.5	-0.0
Dominican Rep.	5030	0.0	27	-2	85	1	74	-6	70	-1	6.1	-3.5
Azerbaijan	5330	0.5	35	-3	89	2	88	4	89	53	9.1	2.1
Colombia	5510	0.0	18	-1	91	6	92	7	91	6	92.7	-7.5
Cuba	5520	0.0	6	-1	96	0	96	0	96	0	18.7	-2.6
Serbia	5630	0.0	7		91	-3	97	3	90	-3		
Maldives	5750	0.0	11	-3	99	3	99	3	0	0		
Suriname	5920	0.0	21	-1	84	-2	84	-2	84	-2	1.2	0.0
Belarus	5950	0.0	5	-1	98	0	97	-1	22	1		
South Africa	6090	0.0	45	-8	68	-4	73	-3	68	-4		
Bulgaria	6280	0.0	12	-1	95	0	95	-1	95	0	37.1	-6.6
St. Vincent	6320	0.0	23	-1	96	0	96	0	97	1	0.0	0.0
St. Lucia	6560	0.0	18	-1	98	-1	98	-1	98	-1		
Palau	6560	0.0	21	-1	89	5	89	-2	89	4	0.3	0.0
Dominica	6740	0.0	13	-1	97	-1	97	-1	97	-1	0.1	
Montenegro	6740	0.0	6		94	-1	90	-1	94	4		
Botswana	6790	0.0	53	-4	96	0	96	0	96	0	1.8	0.0
Costa Rica	6810	0.0	10	-0	91	6	91	7	90	9	11.0	4.9
Grenada	6960	0.0	14	-1	97	3	97	3	97	3	0.1	0.0
Panama	6970	0.0	19	-1	85	-2	85	-2	85	-2	23.8	-3.0
Kazakhstan	7580	0.0	19	-3	99	0	95	-4	97	2		
Gabon	7740	0.0	62	-5	82	7	82	7	82	7	1.7	0.1
Mauritius	7750	0.0	15	0	98	0	98	0	98	0		
Malaysia	7760	0.0	9	0	97	1	97	1	99	4		
Romania	7850	0.0	12	-1	89	0	96	0	92	3		
Argentina	8620	0.0	14	-1	91	-1	91	-1	91	-1	34.7	-11.7
Lebanon	8880	0.0	9	-1	81	0	81	0	81	0	3.7	0.9
Mexico	8890	0.0	16	-1	99	2	99	1	99	2		
Brazil	9390	0.0	14	-2	97	-2	97	-1	97	0	484.1	-90.7
Seychelles	9710	0.0	13	-1	98	-1	99	0	98	-1	0.1	0.1
Turkey	9890	0.0	14	-2	97	0	97	1	97	0		
Russia	9900	0.0	10	-1	97	0	97	0	18	18		
Chile	10120	0.0	9	-0	90	-4	90	-4	90	-4	63.9	42.8
Uruguay	10230	0.0	7	-2	95	0	95	0	95	0	8.5	0.0

* GNI was imputed as the mean GNI for LICs in 2010.

Table 10: Gavi Phase V Sample

Country	2011 GNI	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
			'13	Δ_{12-13}	'13	Δ_{12-13}	'13	Δ_{12-13}	'13	Δ_{12-13}	'13	Δ_{12-13}
Burundi	220	18.5			96	0	96	0	96	0		
Liberia	330	1.1			89	-4	89	-4	89	-4		
Congo, Dem. Rep.	330	56.8			72	0	72	0	72	0		
Malawi	340	23.2			89	-7	89	-7	89	-7		
Niger	370	16.2			70	-4	70	-4	70	-4		
Ethiopia	390	161.0			72	3	72	3	72	3		
Eritrea	390	1.4			94	0	94	0	94	0		
Guinea	410	0.8			63	0	63	0	63	0		
Madagascar	420	29.3			74	4	74	4	74	4		
Mozambique	450	30.1			78	2	78	2	78	2		
Uganda	460	22.6			78	0	78	0	78	0		
Togo	470	1.5			84	0	84	0	84	0		
CAR	490	3.1			23	-24	23	-24	23	-24		
Sierra Leone	500	6.5			92	1	92	1	92	1		
Gambia, The	510	4.0			97	-1	97	-1	97	-1		
Tanzania	540	52.2			91	-1	91	-1	91	-1		
Rwanda	550	21.8			98	0	98	0	98	0		
Afghanistan	570	19.7			71	0	71	0	71	0		
Guinea-Bissau	570	0.9			80	0	76	0	76	0		
Bandwidth 1 lower bound												
Somalia*	580	2.8			42	0	34	34	34	34		
Myanmar*	580	20.8			75	-9	72	17	72	72		
Korea, Dem. Rep.*	580	3.4			93	-3	93	-1	0	-32		
Nepal	610	6.7			92	2	92	2	92	2		
Burkina Faso	620	10.6			88	-2	88	-2	88	-2		
Mali	670	11.3			74	0	74	0	74	0		
Haiti	710	5.1			68	0	68	68	68	68		
Benin	720	11.5			69	-7	78	-7	78	-7		
Zimbabwe	730	12.8			95	0	95	0	95	0		
Bangladesh	770	99.8			97	0	97	0	97	0		
Tajikistan	780	1.8			96	2	96	2	96	2		
Cambodia	810	11.7			92	-3	92	-3	92	-3		
Kenya	820	36.5			76	-7	83	0	83	0		
Comoros	830	0.1			83	-3	83	-3	83	-3		
Kyrgyz Rep.	900	1.2			97	1	97	1	97	1		
Chad	900	4.3			48	3	48	3	48	3		
Bandwidth .5 lower bound												
Mauritania	970	1.6			80	0	80	0	80	0		
Senegal	1030	15.0			92	1	92	1	92	1		
Yemen, Rep.	1080	26.7			88	6	88	6	88	6		
Lao PDR	1090	2.7			87	8	87	8	87	8		
Pakistan	1140	168.4			72	0	72	0	72	0		
Cote d'Ivoire	1140	4.7			88	6	88	6	88	6		
Cameroon	1150	20.7			89	4	89	4	89	4		
Solomon Islands	1160	0.1			83	-7	83	-7	83	-7		
Zambia	1180	16.0			79	1	79	1	79	1		
Lesotho	1230	0.2			96	0	96	0	96	0		
Sao Tome	1240	0.3			97	1	97	1	97	1		
Sudan	1340	41.7			93	1	93	1	93	1		
South Sudan	1360	0.0			45	0	0	0	0	0		
Vietnam	1390	34.5			59	-38	59	-38	59	-38		
Ghana	1420	41.2			90	-2	90	-2	90	-2		
India	1450	51.7			72	0	67	-3	20	20		
PNG	1480	2.1			68	5	68	5	68	5		
Uzbekistan	1510	3.1			99	0	99	0	99	0		
Eligibility threshold												
Nicaragua	1600	5.3			98	0	98	0	98	0		
Nigeria	1710	106.6			58	32	63	16	46	36		
Bolivia	1960	0.9			94	1	94	1	94	1		
Moldova	1990	0.7			90	-2	91	-3	89	-1		
Honduras	2050	3.7			87	-1	87	-1	87	-1		
Kiribati	2100	0.1			95	1	95	1	95	1		
Congo, Rep.	2200	3.7			69	0	69	0	69	0		
Bhutan	2240	0.1			97	0	97	0	97	0		
Mongolia	2340	0.5			98	-1	98	-1	98	-1		

Table 10: Gavi Phase V Sample (continued)

Country	2011 GNI	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
			'13	Δ_{12-13}	'13	Δ_{12-13}	'13	Δ_{12-13}	'13	Δ_{12-13}	'13	Δ_{12-13}
Bandwidth .5 upper bound												
Sri Lanka	2580	3.3			99	0	99	0	99	0		
Philippines	2610	0.0			94	8	94	24	94	71		
Egypt, Arab Rep.	2720	0.0			97	4	97	4	0	0		
Georgia	2850	0.6			98	6	93	1	93	1		
Vanuatu	2870	0.0			68	0	59	0	68	0		
Swaziland	2890	0.0			98	3	98	3	98	3		
Guatemala	2900	0.0			85	-11	85	-11	85	-11		
Indonesia	2920	14.1			85	2	85	2	4	4		
Morocco	2940	0.0			99	0	99	0	99	0		
Samoa	2960	0.0			95	3	95	-4	95	-4		
Guyana	3050	0.2			98	1	98	1	98	1		
Micronesia, Fed. Sts.	3050	0.0			81	0	83	1	68	2		
Paraguay	3120	0.0			86	-1	86	-1	86	-1		
Ukraine	3140	0.0			76	0	46	0	83	0		
El Salvador	3490	0.0			92	0	92	0	92	0		
Armenia	3490	0.5			95	0	95	0	95	0		
Cabo Verde	3570	0.0			93	-1	93	-1	93	-1		
Tonga	3740	0.0			99	4	99	4	99	4		
Fiji	3750	0.0			99	0	99	0	99	0		
Marshall Islands	3920	0.0			36	-44	41	-39	21	-46		
Tunisia	4050	0.0			98	1	98	1	98	1		
Angola	4070	8.2			93	2	93	2	93	2		
Timor-Leste	4080	0.3			82	-1	82	-1	82	82		
Bandwidth 1 upper bound												
Jordan	4370	0.0			98	0	98	0	98	0		
Algeria	4460	0.0			95	0	95	0	95	0		
Belize	4470	0.0			95	-3	95	-3	95	-3		
Albania	4520	0.2			99	0	99	0	99	0		
Thailand	4620	0.0			99	0	99	1	0	0		
Turkmenistan	4660	0.0			98	1	98	0	97	0		
Bosnia and Herzegovina	4670	0.0			92	0	92	0	87	0		
Macedonia	4720	0.0			98	3	97	-1	97	2		
Ecuador	4770	0.0			99	0	98	0	99	0		
Jamaica	4800	0.0			93	-3	93	-3	93	-3		
China	4900	0.0			99	0	99	0	0	0		
Iraq	4970	0.0			68	-1	66	5	68	32		
Namibia	4980	0.0			89	5	89	5	89	5		
Peru	5070	0.0			88	-7	88	-7	88	-7		
Tuvalu	5080	0.0			90	-7	90	-7	90	-7		
Dominican Rep.	5160	0.0			83	-2	80	6	75	5		
Serbia	5510	0.0			95	4	91	-6	92	2		
Azerbaijan	5530	1.5			93	4	93	5	93	4		
Maldives	5680	0.0			99	0	99	0	58	58		
Cuba	5890	0.6			96	0	96	0	96	0		
St. Vincent	6080	0.0			96	0	96	0	97	0		
Colombia	6090	0.0			91	0	91	-1	91	0		
Belarus	6130	0.0			98	0	98	1	23	1		
Bulgaria	6640	0.0			95	0	95	0	95	0		
Dominica	6740	0.0			96	-1	96	-1	96	-1		
South Africa	6850	0.0			65	-3	65	-8	65	-3		
Botswana	6940	0.0			96	0	96	0	96	0		
St. Lucia	6950	0.0			99	1	99	1	99	1		
Grenada	7180	0.0			97	0	97	0	97	0		
Montenegro	7210	0.0			94	0	90	0	94	0		
Costa Rica	7750	0.0			95	4	94	3	95	5		
Mauritius	8100	0.0			98	0	98	0	98	0		
Panama	8110	0.0			80	-5	80	-5	80	-5		
Kazakhstan	8190	0.0			98	-1	99	4	98	1		
Suriname	8260	0.0			86	2	86	2	86	2		
Romania	8520	0.0			89	0	96	0	92	0		
Malaysia	8830	0.0			97	0	96	-1	97	-2		
Gabon	8850	0.0			79	-3	79	-3	79	-3		
Mexico	9000	0.0			83	-16	82	-17	83	-16		
Lebanon	9020	0.0			81	0	81	0	81	0		

Table 10: Gavi Phase V Sample (continued)

Country	2011 GNI	Gavi aid (\$ millions)	U5 mortality		DPT		Hep B		Hib		Expenditure	
			'13	Δ_{12-13}	'13	Δ_{12-13}	'13	Δ_{12-13}	'13	Δ_{12-13}	'13	Δ_{12-13}
Palau	9970	0.0			99	10	99	10	99	10		
Turkey	10510	0.0			98	1	97	0	98	1		
Brazil	10700	0.0			95	-2	95	-2	95	-2		
Russia	10820	0.0			97	0	97	0	18	0		
Seychelles	11080	0.0			98	0	99	0	98	0		

* GNI was imputed as the mean GNI for LICs in 2011.