ON-LINE APPENDIX: NOT FOR PUBLICATION

Online Appendix

In the text, we explained how BCF's equation (3) is used to motivate their argument that there is a potential impact from the initial level of life expectancy on future growth. In this Appendix, we report estimates from equation (3) using nonlinear GMM, with moment restrictions corresponding to using past values of predicted mortality and life expectancy in 1900 as instruments — as in Arellano and Bond's GMM, reported in Table 1. The results of this estimation are provided in Appendix Table A1.

The two columns of this table correspond to alternative moment restrictions, with Panels A and B again showing results for the periods 1940-1980 and 1940-2000 respectively. Column 1 reports results using a sparse set of moments (at most two lags of predicted mortality and GDP per capita). Column 2, in the same spirit as Arellano and Bond's full GMM, uses all lags of predicted mortality and twice or more lagged GDP per capita.

The results are very close to the baseline estimates in AJ (2006, 2007). In the first column for 1940-1980 (Panel A), we have $\hat{\pi} = \square 1.261$, with a standard error of 0.801; and for 1940-2000 (Panel B), we have a more precisely estimated $\hat{\pi} = \square 1.548$, with a standard error of 0.644. The results in column 2 are similar, with the Panel B results showing larger (i.e., more negative), more precise, and more statistically significant estimates.

The similarity of these results to our baseline estimates can be seen by noting that, as pointed out in footnote 6 in the text, π in this specification corresponds precisely to the parameter π in our equation (1), which measures the impact over a 40 or 60 year horizon. This can be verified by setting $\Delta y_{it} = \Delta x_{it} = 0$ in equation (3) — so that the dynamics have worked themselves out — in which case the equation implies $y_{it} = \pi x_{it}$. Therefore, estimates of π can be directly compared to the estimates in Table 9 of AJ (2007), which range from -1.21 to -2.70.

In short, nonlinear estimation using BCF's own specification produces estimates within the range of our baseline results.

Table A1

Effect of life expectancy on GDP per capita: estimates for the parameters of equation (3), using panel data

	Dependent variable is log GDP per capita	
	(1)	(2)
	A. 1940-1980 balanced panel	
π	-1.261	-0.815
	(0.801)	(0.461)
λ	0.031	-0.001
	(0.028)	(0.021)
Countries	47	47
Moments	14	20
Hansen p-value	0.22	0.22
	B. 1940-2000 balanced panel	
π	-1.548	-1.965
	(0.644)	(0.546)
λ	0.040	0.044
	(0.017)	(0.011)
Countries	47	47
Moments	22	42
Hansen p-value	0.25	0.55

Note. Optimally weighted two-step GMM estimates of the model in equation (3) from the text. Robust standard errors are in parentheses. In column 1, the second lag of GDP per capita and the first and second lags of predicted mortality are used as instruments for every year. In column 2, the second and all longer lags of GDP per capita, and the first and all longer lags of predicted mortality are used as instruments for every year. All models include a full set of year dummies which are also used as instruments. Panel A contains estimates using a balanced panel of 47 countries from 1940 to 1980. Panel B contains estimates using a balanced panel of the same 47 countries from 1940 to 2000. See Acemoglu and Johnson (2007) for the construction of the predicted mortality instrument, definitions, and data sources.