

What Do We Know About Economic Growth, Redux

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In 1949, the first World Bank mission to a Third World country headed to Colombia. On its return, it reported that “[o]nly through a generalized attack through the whole economy on education, health, housing, food and productivity can the vicious circle of poverty... ill health and low productivity be decisively broken. But once the break is made, the process of economic development can become self-generating... with the knowledge of the underlying facts and economic processes, good planning in setting objectives and allocating resources, and determination in carrying out a program for improvements and reforms, a great deal can be done to improve the economic environment...”ⁱⁱ Fifty-six years later, Jeffrey Sachs reported back on a visit to Malawi. “Much of the one-sixth of humanity in extreme poverty [is] trapped in a vicious cycle of deprivation” he noted. But “addressing a series of specific challenges, all of which can be met with known, proven, reliable and appropriate technologies and interventions” villages in Malawi and worldwide “can be set on a path of development” These challenges involved education, health, agriculture, and infrastructure, and could be overcome if a only global plan of action was adopted to meet them.ⁱⁱⁱ

In 1951, The United Nations produced a Primer for Development to illustrate tools and methods to plan for economic growth. An outraged Herbert Frankel in an issue of the *Quarterly Journal of Economics* the following year complained that “It is... precisely because the authors of the report see economic development primarily as an intellectual or artistic exercise by leaders and governments that they fail to do justice to their examination of existing realities in underdeveloped countries... development depends not on the abstract national goals of, and the more or less enforced decisions by, a cadre of planners, but on the piecemeal adaptation of individuals to goals which emerge but slowly and become clearer only as those individuals work with the means at their disposal; and as they themselves become aware, in the process of doing, of what can and ought to be done.” Fifty Five years later Jeffrey Sachs’ Millennium Project produced its report *Investing in Development*, and an outraged William Easterly demanded that we “discard the Planners’ patronizing confidence that the Planners know how to solve other peoples’ problems better than the people themselves do.” He contrasted the planning approach to that of a ‘searcher’ who “admits he doesn’t know the answers in advance... believes that poverty is a complicated tangle of political, social, historical, institutional, and technological factors” and “only hopes to find answers to individual problems by trial and error experimentation.”^{iv}

Truly, there is no new thing under the sun when it comes to debate over development strategies. But is there anything new in the empirical evidence on the relative success of planners’ and seekers’ prescriptions? Six years ago, David Williams and I wrote a review paper called “What Do We Know About Economic Growth? Or Why Don’t We Know Very Much?”^v As the title suggests, we felt the existing literature focused on cross-country empirics had taught us surprisingly little about robust determinants of economic growth. A number of commonly cited variables –including investment,

education, trade and fiscal policy—turned out to be weakly causally related to growth across countries on further examination. We suggested that this might be because the relationship between factors such as investment, education or policy on growth was context dependent, and perhaps significantly dependent on underlying structural variables. Of course, we weren't saying anything new, either –40 years earlier Gunnar Myrdal had argued that growth “concerns a complex of interlocking, circular, and cumulative changes,” and we noted in the paper that Myrdal in turn may have been channeling Keynes.

In the six years since then, we have not learned much new about the causes of economic growth from the cross-country literature, but perhaps we have strengthened the evidence base behind two earlier conclusions. First, we have piled up additional evidence against the idea that a simple linear model can account for worldwide growth experiences covering Malawi to Monaco. And second, more evidence in favor of context-specific causal relationships further highlights the importance of structural variables to long-term growth outcomes.

On the fragility of supposedly ‘robust’ determinants, recent research has further confirmed such fragility. For example, Dani Rodrik Ricardo Hausmann and Lant Pritchett identified and examined more than 80 episodes of growth acceleration - in which a country increased its growth rate by 2% or more for at least seven years - in the period since 1950. The vast majority seemed unrelated to conventional economic reforms, such as liberalization of trade and prices.^{vi} According to Christa Brunnschweiler at the University of Zurich, evidence in favor of a resource curse in earlier empirical work may just be due to poor measurement of resource abundance.^{vii} Piles of papers suggesting a link between financial sector development and growth have been challenged as unrobust by Peter Rousseau and Paul Wachtel, and some are now suggesting that financial crises are actually good for growth.^{viii}

Beyond financial crises, it is even hard to make war look consistently bad in growth regressions –and some researchers suggest there might be a positive link here, too.^{ix} At the country level, Edward Miguel and Gerard Roland suggest that the extent of bombing of Vietnamese districts hasn't determined long-run performance, either.^x In other words, 7.5 million tons of explosives didn't alter economic outcomes much at all.

More broadly, I can't (won't) make the case against robust universal growth correlates based on a systematic review of the recent empirical literature. Google Scholar points to 14,600 articles that include the words “cross-country economic growth regression” published between 2001-2007. But, luckily, a paper by Francisco Rodríguez suggests that I don't need to read all of these papers –or indeed any other paper apart from his.^{xi} This is because he directly tests the underlying thesis of *What Do We Know About Economic Growth* regarding context dependency.

Growth regressions tend to assume linear relations, Rodríguez notes. A linear framework rules out the possibility that the effect of a change in the variable of interest may differ according to the initial level of that variable and that the effect of certain variables may

depend on the levels of other variables –in short, it rules out the idea that context matters. And when you look at the data we have, it turns out that relationships are almost certainly non-linear –or context-dependent. But we don't have enough data on global economic growth to fully account for all of the context-dependent relationships. Indeed, all we can say with some confidence is that everything we thought was robustly causally correlated with growth across countries probably isn't robustly correlated with growth across countries. Rodriguez doesn't give up all hope at this point:

“Does this mean that the empirical analysis of growth data sets is a worthless endeavor? I do not think so. Actually, this paper has shown that one can use existing data sets to make non-trivial inferences about the growth process. The tests presented in [this paper] present a decisive rejection of the linearity hypothesis. We do not seem to be in a world where any country can expect to have the same effect from a proportionate change in a particular policy, institution or structural characteristic irrespective of its starting level. Furthermore, the preponderance of the evidence seems to weigh against the hypothesis of separability: we do not appear to be in a world in which the effect of a particular policy does not depend on the state of institutions or the economy's structural characteristics. These conclusions are in themselves very important: they show that we do not live in a simple world, where the same rules can be used to design growth strategies in China and in Chile. In the dimension of policy, institutional and structural effects, the world does not seem to be very flat. Rather, it appears to be a pretty rocky place.”

So, there is one paper that can be written using cross-country growth data that has empirical merit. Sadly, Rodriguez has written that paper already. For the rest of us, perhaps its time to pack up the Stata and go home?

Before doing that, however, it is perhaps worth further unpacking the importance of historical factors to growth outcomes. Surely the evidence from Vietnamese and global studies regarding war and growth is a sign of the overwhelming relative importance of things that can't be blown up –such as historical and institutional legacies-- to long-term development. And the import of the unexplodeable to growth outcomes leads us to a range of historical factors which have been suggested in the literature –including disease and the death rates of early colonists and settlers or the extent of slavery.^{xii}

For example, Stanley Engerman and Kenneth Sokoloff argue that parts of the World which were extremely dangerous to the health of colonisers because of rampant disease ended up with a very small elite of colonialists sitting atop a mass of very poor people (most of Africa). This contrasted with countries more pleasant for Westerners, where colonizers would remove or wipe out the locals and occupy the land themselves en masse. There, colonizers created more egalitarian societies (Australia, the Northern United States). Societies which began with extreme inequality in the population were more likely to develop institutional structures that greatly advantaged members of elite classes (and disadvantaging the bulk of the population) by providing them with more political influence and access to economic opportunities while generating lower rates of public investment. This resulted in slower economic development.

Bill Easterly and colleagues push back the clock on global economic progress further –to factors which explain who were colonizers and who the colonized.^{xiii} In short, if your countrymen's forefathers weren't using a compass to direct their 1,500 deadweight ton ships across oceans in the Sixteenth Century, your country is not rich today. The good news, one supposes, is that almost everyone has access to a compass nowadays, so your country's great-to-the-16thish grandchildren could be doing fine –as long as you aren't landlocked.

Going even further back, Enrico Spolare and Romain Wacziarg argue that that income differences across countries today are highly correlated with 'genetic distance' –a measure associated with the amount of time elapsed since two populations' last common ancestors.^{xiv} In a related vein, John D. Gartner, assistant professor of psychiatry at the Johns Hopkins, has written a book which suggests that Americans are rich because they descend from brave explorers and are thus "culturally and genetically predisposed to economic risk."^{xv}

To be fair, this book is not based on cross-country research --rather through brief studies of key American "hypomanics" from five different centuries. For the theory to have global application, we need to explain the development of other rich countries in the same way. Australians no doubt inherited risk-taking genes because you'd have to be pretty foolhardy to steal a sheep even at the risk of transportation. Non risk-taking Swiss DNA was weeded out of the genetic mix because the safety mavens stayed at home while the more spirited climbed up high mountains to yodel, thereby keeping fit, living longer, and procreating more.

Again, with nothing new under the sun, it is perhaps unsurprising that econometricians are now channeling Nineteenth Century explanations for development outcomes –we're better off because we are better bred and/or (according to Robert Barro of Harvard) because we follow the right religion.^{xvi} On the other hand, the less eugenically- or theologically-inclined can look at the same data and divine an interpretation more akin to Jared Diamond's *Guns, Germs and Steel* regarding the importance of initial conditions. The ultimate answer to riches in this interpretation is not economics, politics, sociology, history or even biology –it is geography.

In short, the last six years has not changed the basic conclusion that the growth literature has taught us much less about how to get rich than it has about who is already rich. There is nothing particularly new in recent growth theory, but perhaps that is no surprise because there is remarkably little new in growth, either –the rich today are by and large those who were rich yesterday. That there might not be a holy grail of growth policy, however, is no reason for people of economic faith to stop looking, so no doubt the next six years will see another 13,000 articles on the subject to review.

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ⁱⁱ Quoted in Escobar, A. (1994) *Encountering Development*, Princeton

ⁱⁱⁱ Jeffrey D Sachs The End of Poverty . Time. New York: Mar 14, 2005. Vol.165, Iss. 11; pg. 42

^{iv} William Easterly Planners vs. Searchers in Foreign Aid, mimeo, Center for Global Development.

^v *World Development* 29, 1, 2001

^{vi} Hausmann, R., L. Pritchett and D. Rodrik (2005) Growth Accelerations *Journal of Economic Growth* 10, 4 303-329

^{vii} 2006 Cursing the Blessings? Natural Resource Abundance, Institutions, and Economic Growth *CER-ETH - Center of Economic Research at ETH Zurich, Working Paper No. 06/51*

^{viii} Rousseau, P. and P. Wachtel, (2005) Economic Growth and Financial Depth: Is the Relationship Extinct Already? New York University, Leonard N. Stern School of Business, Department of Economics Working Papers 05-15. Ranciere, R., A. Tornell and F. Weterman, (2005) Systemic Crises and Growth CESIFO Working Paper. 1451

^{ix} Lena-Maria Schaffer (2004) Economic growth and Civil war: A One-way Street? Paper presented at the Fifth Pan-European International Relations Conference in The Hague, Netherlands, 9-11 September 2004,

^x (2006) The Long Run Impact of Bombing Vietnam NBER Working Paper No. 11954

^{xi} Cleaning Up the Kitchen Sink: On the Consequences of the Linearity Assumption for Cross-Country Growth Empirics Wesleyan University, Department of Economics Working Paper 2006-4.

^{xii} Nathan Nunn (2005) Slavery, Institutional Development, and Long-Run Growth in Africa, 1400–2000, mimeo, Canadian Institute for Advanced Research

^{xiii} Comin, D., W. Easterly and E. Gong, "Was the Wealth of Nations Determined in 1000 B.C.?" (October 2006). NBER Working Paper No. W12657

^{xiv} Spolare, E. and R. Wacziarg (2006) The Diffusion of Development NBER Working Paper No. 12153

^{xv} The Hypomaniac Edge: The Link Between (A Little) Crazy and (A Lot of) Success in America Simon & Schuster (March 1, 2005)

^{xvi} Barro, R. and R. McCleary (2003) Religion and Economic Growth, mimeo, Harvard University