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Developing the guts of a GUT (Grand Unified Theory): elite commitment and inclusive growth

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Abstract.

Two key unanswered questions in theories of growth are (a) why some countries successfully initiate *episodes* of rapid growth while others suffer extended stagnation and (b) why some countries are able to *sustain* growth episodes over many decades of rapid (or steady) growth while other growth episodes end in reversion to stagnation or collapse. We create an analytical model that is capable of generating both transitory and sustained episodes of accelerated growth. The new feature is a feedback loop from existing economic conditions the pressures on policy implementing 'institutions.' This feedback loop can be positive (with economic growth leading to improved institutions for inclusive growth) or negative (with economic growth leading to worse conditions for further growth by shutting off the inclusiveness of growth and limiting economic opportunity to existing successes). Whether economic elites use their influence activities with political and bureaucratic elites to create more possibilities for economic structural transformation or, conversely, use their power to entrench their privileged position will, to a significant extent, determine whether episodes of rapid growth can be sustained or will peter out, or even be reversed. The mechanisms for elite commitment to sustained inclusive growth are discussed.

Keywords: economic growth, elite commitment, inclusive growth

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Introduction

This paper addresses the question: "what role does elite commitment play in promoting inclusive growth?" The practical salience of this question is obvious. The common sense notion of "elite" overlaps with "those with power" and understanding how the interests of those with power are arrayed, and could be arrayed, in favor of inclusive growth is key to promoting inclusive growth as an objective. Recent research on the long-run of economic growth emphasizes that the historical emergence of sustained and broadly shared prosperity is a shift to institutions that support inclusion. (North, Wallis et al. 2009) call this a transition from "closed" to "open access" orders. (Acemoglu and Robinson 2012) call this the shift from "extractive" political and economic orders to "inclusive" political and economic orders.

This question poses an obvious puzzle: built into the *very definitions* of development and inclusive development are, at best, an erosion of elite privileges (e.g. extension of equal treatment) and at worst the elimination of a previous elite in favor of a new one (e.g. landowners for industrialists, hereditary power for democracy). The puzzle is not just why would an existing elite ever *allow* that to happen, but why might an elite be *committed to* it happening?

The impossibility of this broad question when posed as a *research agenda* is equally obvious, on at least three levels.

- Which "elite"? There are "elites" in every domain—sports, media, academia, business, politics, religion, entertainment, bureaucracy—and only the crudest of social science would lump those into a single homogenous "class" with homogenous motivations, interests, and ideas. Almost certainly conflict across types of elites (e.g. political versus economic), within elites (e.g. across ethnicity or region or ideology) and in the dynamics of elite formation (e.g. the rise of new domains with new elites) all play a role in development dynamics. Methodologically we want to avoid "economic determinism" in which the only construction of the elite is economic interests while basic social and political alignments are ignored.

- What "commitment"? If elites are, or are not, committed to inclusive growth then certainly this is the *outcome* of some other confluence of interests and objectives, not a primordial objective. Without resorting to crude ideas of interests formed strictly on the basis of material interests, any commitment to inclusive growth by the elite is either *instrumental* to some other set of deeper interests of the elites (e.g. national integrity or legitimacy sufficient to maintain the existing order) or as a *compromise* with other forces.

- What is "inclusive growth"? Does this mean "pro-poor" growth with "poor" defined in a narrow (e.g. "dollar a day" way? Equal(ish) opportunity? Inequality reduction? Or can "inclusive" growth be defined as only incrementally more inclusive in which new rising

elites are allowed greater access to economic opportunity (even if "the poor" do not disproportionately benefit).

Given the difficulty of the question, we will begin by asking: "What are the elements of a Grand Unified Theory (GUT) of Growth?"

Our specification of a GUT of inclusive growth has the following elements.

- What are the basic facts about the dynamics of growth that a "growth theory" should explain? (Section 1)
- A minimally adequate and practically useful general theory of growth must take the form of equations of motion for output with "growth states" with "phase transitions" across growth states (Section 2)
- "Development" is a four-fold transformation that involves the economy, the polity, institutional capability, and social identities. Clearly something like "institutions" is central to growth but the different dynamics of "growth" and "institutions" imply this will be a complex relationship in which at the same measured "quality" of institutions both very high and very low growth is possible. A key question in the "phase transitions" is the feedback loop from growth states to institutions (Section 3).
- Examining how "institutions" and particularly the "capability for policy implementation" affect the conditions for inclusive growth leads to the distinction between "deals" and "rules" institutional environments. In a "deals" environment the *legal* or *de jure* policies are of only minimal relevance to business decisions. (Section 4)
- Growth transitions are affected by shifts within a "deals" institutional climate, not by a shift from "deals" to "rules" but rather by shifts within a "deals" institutional climate between "ordered" and "disordered" deals or a shift from "closed" to more "open" deals. (Section 5).
- Therefore the dynamics of inclusive growth are determined by the feedback loop "growth states" to "institutions" in a contingent way. For instance, when a growth shock re-enforces a "closed ordered deals" environment then elites use better growth to consolidate political power and *weaken* autonomous institutions or organizations and hence create the conditions in which a shock to growth or a political transition will cause a collapse or stagnation. The conditions for positive feedback from growth to better institutions, that is, that the elite *want* better institutions for inclusive growth is the key research question to be answered. (Section 6).
- Section 7 combines these pieces with definitions of the "product space" and proposes paths for a research agenda.

1. What are the basic facts about growth that a unified growth theory should explain?

Before discussing any theory of growth, we review the facts that a "unified" theory of growth ought to be capable of explaining. Many current growth theories achieve elegance and apparent parsimony by attempting to explain only certain features of the process economic growth. We wish to emphasize the *dynamics* of growth over the "medium" run rather than just "steady state" properties. What preoccupies policy makers and business-people is not the infinite horizon level but the immediate (quarter to quarter) and up to medium-run (five to ten year) growth—and, as we see, the medium run and steady state have completely different dynamics.

Fact 1: Steady, moderate, constant growth for a century or more

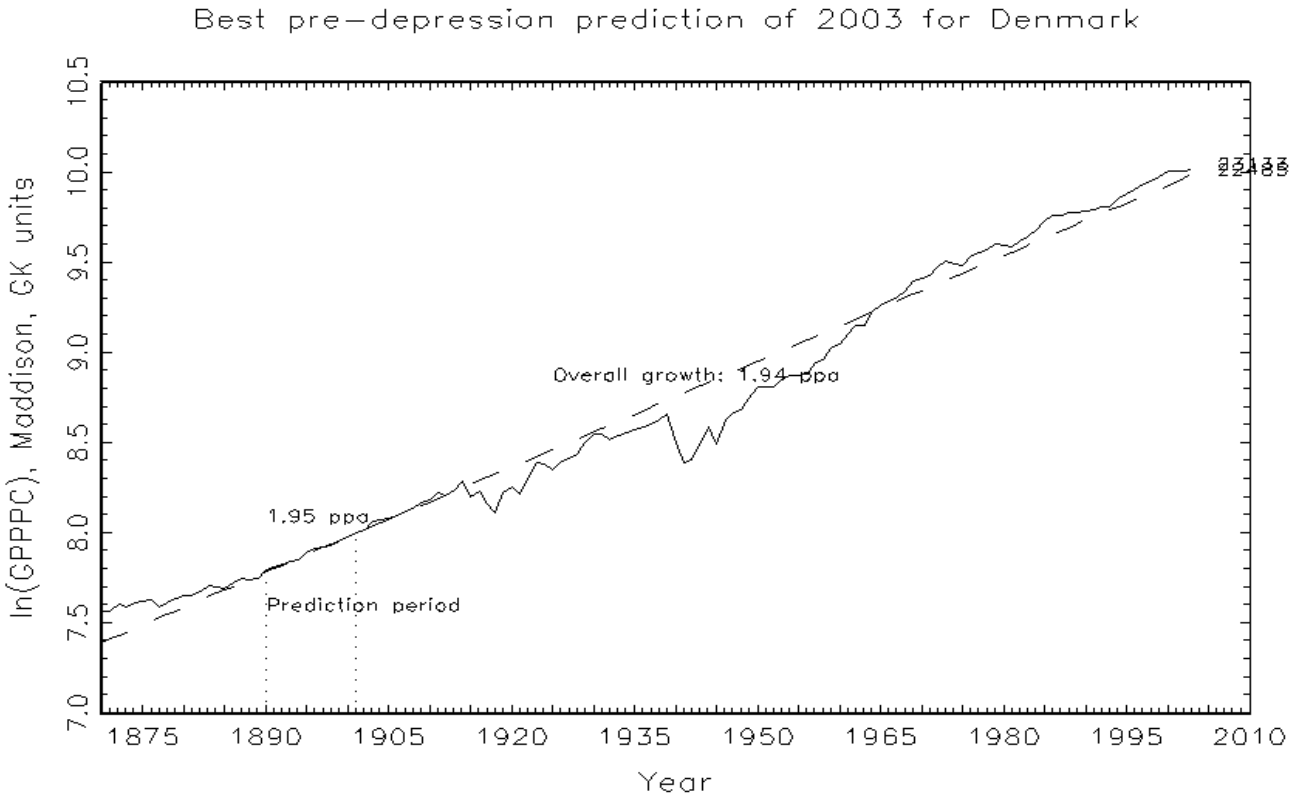
First, nearly all of the currently rich countries are rich because they grew at a modest pace for more than a hundred years. The GDP per capita in OECD countries typically grew at around 2 percent per annum (some modestly higher, some modestly lower) from 1870 to today. This is roughly the average pace of growth of all countries since 1960.

The reason behind the differing *levels* of economic success across countries such as Denmark and Somalia is not due to Denmark having grown particularly fast, just that Denmark has grown steadily for a long time. This would suggest a theory that would explain *levels* of income must invoke features and characteristics that are *persistent* across countries over time.

One of the most striking economic facts is that one can predict OECD countries' *level* of income 100 years ahead with remarkable accuracy. Figure 2 shows that using just data from 1890 to 1901 one can predict Danish GDP per capita in 2003 to within a few percentage points. One important implication is that Denmark's growth has not *accelerated* or *decelerated* in over 100 years—its average growth from 1870 to 2003 was 1.94 percent, its growth from 1890 to 1915 was 1.93 percent, its growth 1980 to 2003 was 1.91 ppa. This lack of long-run growth acceleration across a century is true of the (old) OECD countries[1].

[1] By "old" OECD I mean the OECD before the recent additions of South Korea and Mexico. I will use henceforth use "OECD" to be roughly interchangeable with "developed" where by "developed" I mean having completed the four-fold modernization transition and having attained: high productivity economies with prosperous citizens, capable institutions and organizations generally but including a high capability state, stable democracy and freedoms, and practiced social equality.

Figure 1: Rich countries have had stable growth rates for more than 100 years – with neither deceleration or acceleration – Denmark, for example.



Source: Authors' calculations with Maddison (2009) data.

This fact of long-run stable growth of the leaders itself rules out models that explain steady state growth as a linear function of anything that has grown steadily over time. As (Jones 1995) pointed out early on in the debate over endogenous growth models the fact that measures of education or knowledge or R&D have growth many fold over time while growth has been stable itself rules out many "first generation" endogenous growth models and makes the issue of growth and scale very difficult (Jones 1999; Jones 2005).

Fact 2: Poverty (or "low growth") traps

The second big fact is that there are a set of countries that are, even today, very near the lowest level that income per capita ever was in all of history (a level that could be called "subsistence"). This low level of income today implies that the *long-run* average rate of their growth must be very low, well below the long-run rate of the developed economies causing massive historical divergence in per capita incomes (Pritchett, 1997).

Fact 3: Accelerations to spectacularly rapid, extended periods of growth, rarely

Third, a very small number of countries have improved their economy very fast by historical or cross-sectional standards. South Korea's GDP per capita was similar to Ghana's in 1960 but had a level of GDPPC similar to Portugal by 2005. But since South Korea was so poor in 1960 its *cumulative historical* growth rate up to 1960 must have been slow. So a theory of Korea's growth (along all other countries that begin episodes of rapid growth from low levels of income) must invoke something than caused an *acceleration* in growth rates from a previous low level, an acceleration to a very high level which then *persisted* for decades (as opposed to the long-run *persistence* of moderate growth of the OECD countries).

Fact 4: Non-persistent growth with episodes of boom, stagnation, and bust

The principal fact about growth rates of countries over the medium-run (5 to 10 to 15 year)[2] periods is *volatility* in the growth rate – with acceleration and deceleration – and hence a lack of persistence(Easterly, Kremer et al. 1993; Ben-David and Papell 1998). There is massive "regression to the mean" in growth rates, such that a country growing fast in one decade is expected to *decelerate* substantially towards the average growth rate. There is almost zero predictive value for a country's growth in the next decade from this decade's growth[3].

Over the medium- to long-run most countries growth is *episodic* and has many, apparently discrete, transitions between periods of high growth, periods of negative growth, and periods of stagnation(Pritchett 2000; Hausmann, Pritchett et al. 2005; Jones and Olken 2008). For instance, Hausmann, Pritchett, Rodrik (2005) examine cases of "growth acceleration" for countries that experienced a growth episode at least seven years long that was (a) at least 2.5 percent per annum *faster* than previous growth, (b) growth after the acceleration was positive (to rule out 'accelerations' that are just slowing deceleration) and (c) lead to a higher level of output than previous peak (to rule out accelerations that were only recoveries). They find that there are many accelerations, but with very different outcomes.

[2] By "medium -run" I mean longer than "business cycle frequency" fluctuations, with the caveat that the decomposition of the evolution of output into "trend" and "cycle" does not work at all for most developing countries because, unlike the OECD countries, there is no stable "trend" (or even small set of "trends") around which a stable "cycle" could be attributedAguinar, M. and G. Gopinath (2007). "Emerging Markets Business Cycles: The Cycle is the Trend." Journal of Political Economy **115**: 69-102.

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[3] The conventional wisdom of course nearly always gets this exactly wrong and extrapolates a country's current growth rate into the (far) future.

2. A "phase transition" theory to unify growth

> *It can scarcely be denied that the supreme goal of all theory is to make the irreducible basic elements as simple and as few as possible without having to surrender the adequate representation of a single datum of experience.*
>
> Albert Einstein

A unified growth theory would seek an encompassing model capable of explaining the dynamics of growth rates, both the persistence and the transitions. We are emphasizing this because we are creating a theory of the determinants of *inclusive growth.*

Is a theory of "growth" answering a question like "why are some people left-handed?"—in which a theory can invoke determinants (like genetics) that are themselves persistent *characteristics* of people since left-handedness is itself persistent. Or is the question of "growth" theory more like "why does Mary have the flu today?" which is their current *condition* which condition (or its onset) is unlikely to be explained by permanent characteristics. Some people might be more genetically susceptible to the flu than others but this almost certainly explains almost none of the existing variation in who has the flu today.

One strand of research into the determinants of "growth" (of which 'inclusive growth' is a subset) has been a single, linear, equation of motion, so that "growth" is a function of "determinants" and a "conditional convergence" term. Without going into any detail it is clear that a non-state dependent, linear dynamics with conditional convergence do not and *cannot* explain any significant part of the observed variation in medium-run growth rates across countries[4].

We are therefore searching for a model with "phase transitions" across "growth states" in which countries shift not only their growth rate, but the relationship between their growth rate and various "determinants" of growth also shifts. The easy physical analogy with a phase transition is water. The *dynamics* of water change dramatically across 0 Celsius. The answer to the question "What will happen if I turn a bucket of water upside down" depends entirely on whether the water is in the physical state of being a liquid or a solid as the equations of motion of water are completely different across its physical states.

A second metaphor is to think of a model that explains a car's speed. One might think that the RPM of the motor has a tight link with the speed of the car and hence causal mechanisms connected to RPMs (like pressing the gas pedal) explain speed. However, the RPMs of the

[4] There is a very simple econometric principle that very smooth lines cannot explain very squiggly lines. That is, nearly all of the factors that have been argued as associated with longer run growth rates (e.g. 30 years) are very persistent. Take f or instance "schooling capital"—the accumulation of additional years of schooling of a population. While it is strongly associated with the *level* of incomes across countries since "schooling capital" of the labor force evolves very smoothly over time it can explain almost none of the differences in growth rates across countries over 5 to 10 year periods—not matter what dynamics or specification of schooling capital are usedPritchett, L. (2006). Does Learning to Add Up Add Up: The Returns to Schooling in Aggregate Data. Handbook of Education Economics, Elsevier. **1:** 635-695.

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engine are intermediated by a transmission, which provides "phase transitions" in the dynamic relationship between the gas pedal and car speed. When a car is in "Park" no amount of pressing on the gas pedal will increase speed (even though it affects RPMs). If a car is in "Reverse" then pressing the pedal will affect car speed, but in exactly the opposite direction as if the car is in "Drive." An empirical study that showed a close correlation between gas pedal position, engine RPMs and car speed would work well in some circumstances—really, really, well if all of the measurements happened to be done with cars in the same gear. But this empirical relationship between gas pedal pressure and speed would not provide any guidance for a car with its transmission in "Park" as, although gas pedal pressure translates into engine RPMs the "state" of the transmission being in Park prevents these engine RPMs from being translated into speed.

2a The empirics of "growth states"

For illustrative purposes suppose that there are just six discrete "states" of growth, like gears of a car (reverse, neutral, first, second, third, fourth). In any given period a country is in one of those "states" of growth. Averaged over long periods of time a country's growth rate is just the average of the portion of the time the country spent in that growth state (π) times the growth while in that state (g).

$$\bar{g}_{t-n,t} = \sum_{i} \pi^{i} * g^{i}$$

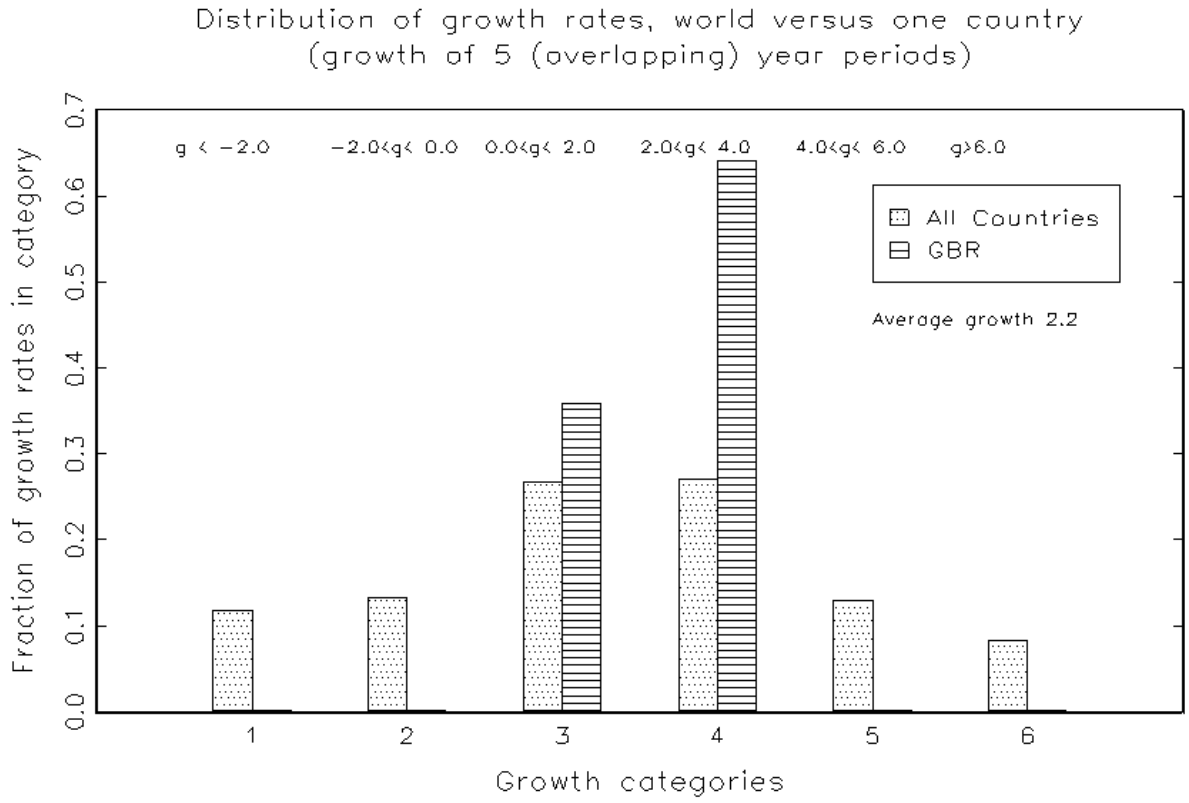
But a country's "average" growth rate is not a summary statistic of its underlying growth process. Countries with the exactly the same rate of average growth over 30 years may have had completely different growth dynamics in the sense of being in different growth states.

A set of graphs illustrate the dynamic nature of growth episodes and the inadequacy of "average" growth as a summary statistic of a country's growth experience. We calculate all five year growth rates starting from each year in the same for all countries of the world. We then "bin" these episodes into the six categories of growth rates, from collapse (g<-2ppa) to negative stagnation (-2<g<0) up to rapid growth (g>6ppa) to show the histogram of all growth episodes. The "bins" are based on the cross-national distribution of growth rates which has an average around 2 and a standard deviation around 2 (so those in "collapse" are countries with growth more than two standard deviations below the cross-national mean).

We then compare a given country's distribution of growth episodes to the distribution of growth rates comparing all countries in the world.

Figure 2a shows five year growth episodes for the United Kingdom. All of the episodes are concentrated in two categories (slow and moderate growth). This is a typical OECD industrial country growth rates, nearly all steady growth with no boom, no bust (and modest "business cycle" fluctuations). This is dramatically more centered than the world distribution with shows countries with booms and collapses.

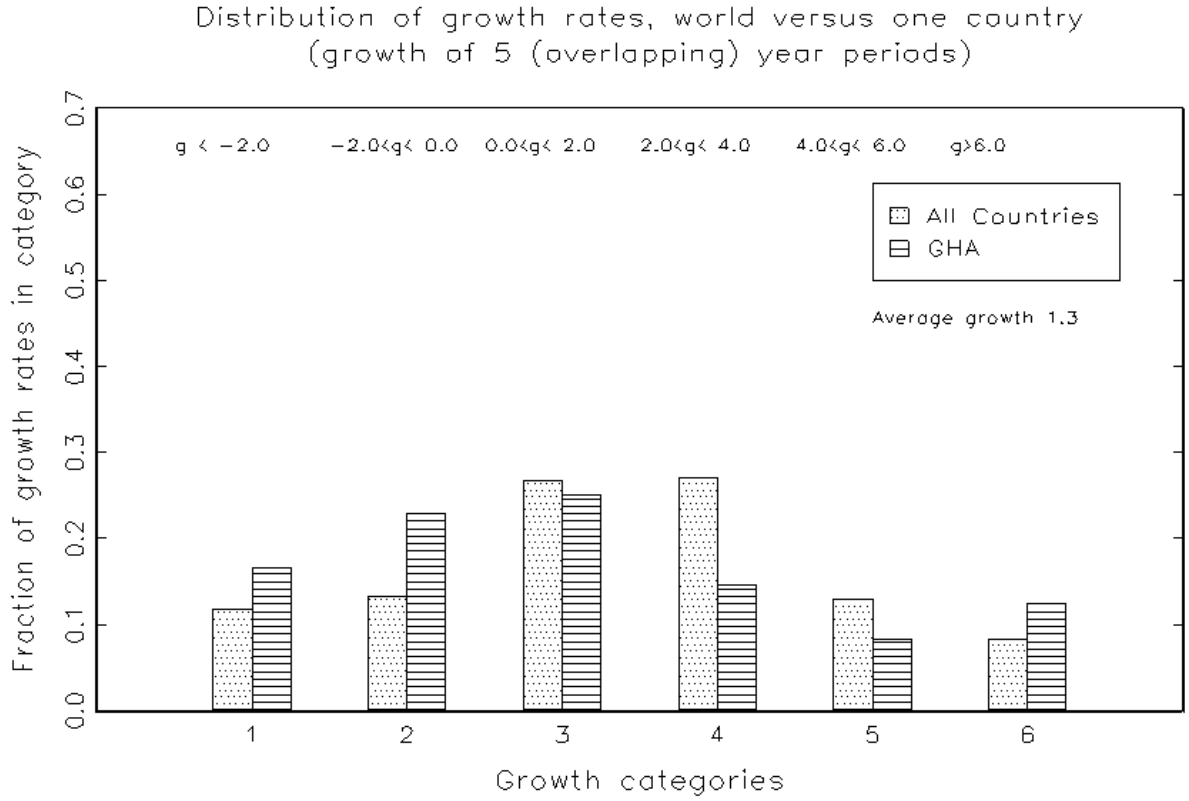
Figure 2a: Steady growth—most growth concentrated in a narrow range



Source: Authors' calculations with PWT6.3 data (Heston, Summers, Aten, 2009).

Figure 2b shows the same graph for Ghana. What is striking is that Ghana has *more* variation in its growth episodes over time than the variation in growth rates across all countries in the world. Ghana spent more time in super-rapid growth (the rightmost category, growth above 6 ppa) *and* more time in collapse (growth less than negative 2 ppa). Ghana made lots of transitions across growth episodes, from very fast to very slow so that Ghana had more variance in its growth over time than the world average across all countries.

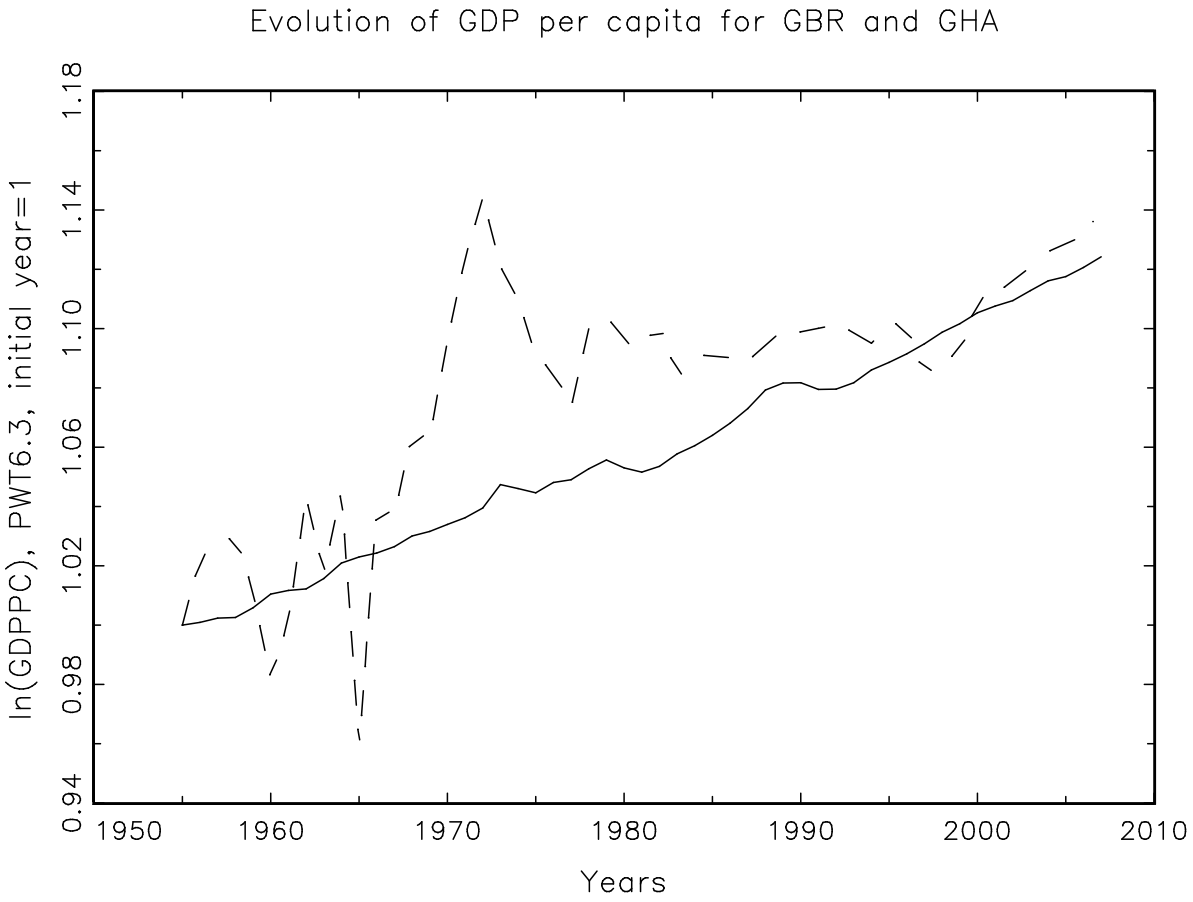
Figure 2b: Unstable growth: Countries with boom and bust have episodes of both rapid growth but also of collapse



Source: Authors' calculations with PWT6.3 data (Heston, Summers, Aten, 2009).

Figure 2c shows that the *average* growth of the UK and Ghana over the period since 1950 to 2007 is almost exactly the same, but with entirely different dynamics. The UK grew quite steadily. Ghana has a massive boom 1965-1972, followed by a massive collapse in the mid 1970s, followed by an extended stagnation, followed by reasonably rapid growth since 1999.

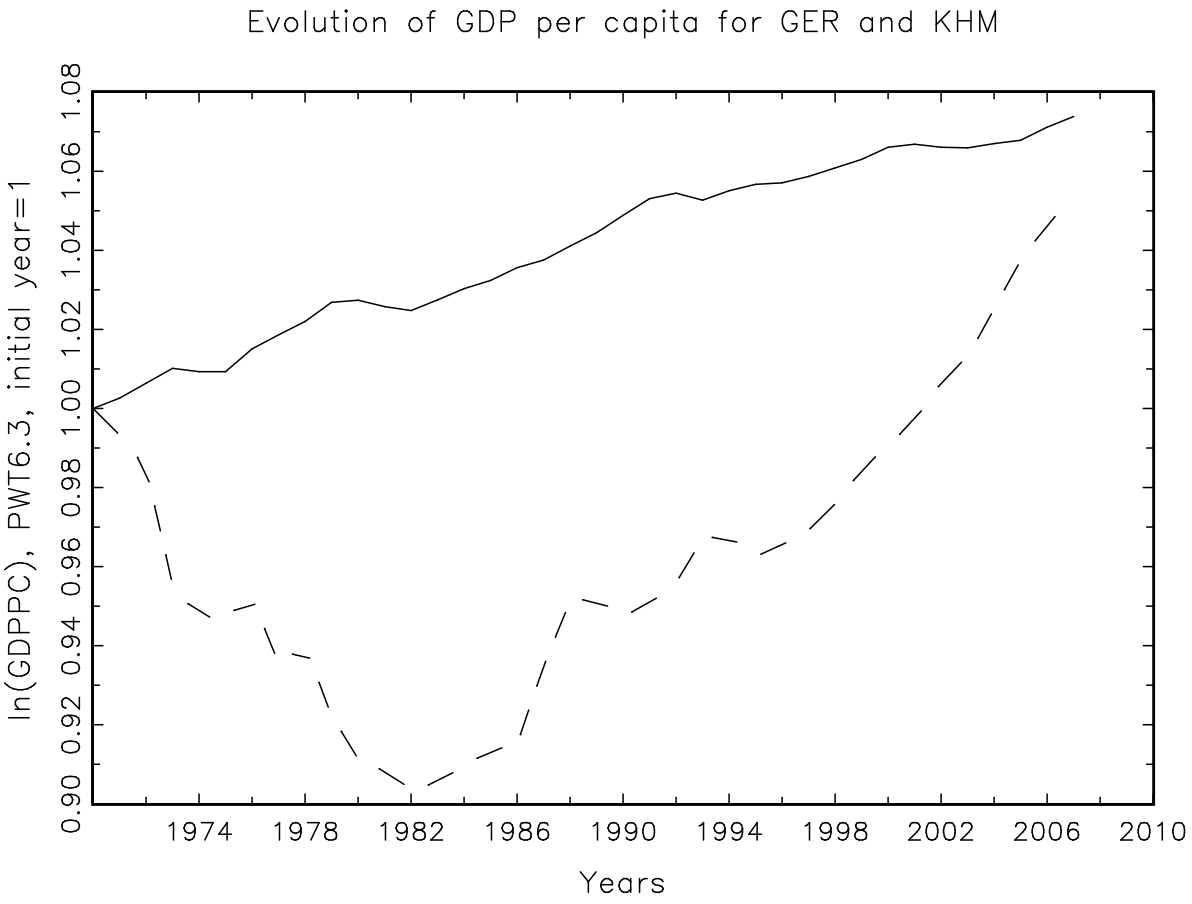
Figure 2c: Countries may have the same average growth rate but very different dynamics



Source: Authors' calculations with PWT6.3 data (Heston, Summers, Aten, 2009).

Germany and Cambodia (KHM) had similar growth rates from 1970 to 2007 (1.6 ppa versus 1.9 ppa). As seen in Table 1 Germany spent 100% of five year growth episodes between 0 and 4 percent (in the middle two categories). In contrast, Cambodia spent 30 percent of the time with *negative* growth and 40 percent of its time with *rapid growth* (above 4 ppa) and 30 percent in the middle. Figure 2d shows that Cambodia's experience is waves of collapse from 1970 to 1982, followed by waves of growth (with pauses) from 1982 to 2007.

Figure 2d: Germany and Cambodia have the same average growth since 1970, but completely different growth experiences



Source: Authors' calculations with PWT6.3 data (Heston, Summers, Aten, 2009).

This comparison between UK and Ghana and Germany and Cambodia, showing that similar growth rates when averaged over long periods of time can be the result of very different underlying dynamic pattern of growth, holds more generally. Table 1 shows the proportion of time spent at various rates of growth—from "collapse" to "boom" for countries all of which had *average* rates of growth over the entire period 1950-2007 of between 1.5 and 2.5 ppa[5]. The table is sorted by the percent of 5 year episodes spent in negative growth (either 'collapse' or 'stagnation'). Eight countries spent a *quarter* of the time experiencing negative growth—and yet had "moderate" overall growth rates because these were offset by rapid growth in other periods—while five countries with average moderate growth had *no* five year episodes of negative growth.

[5] Unless otherwise specified calculations are for all the available data country by country.

Table 1: Countries with very similar *average* growth rates (between 1.5 and 2.5 ppa) have completely different growth dynamics: steady growth—no boom, no stagnation (e.g. USA, UK, Denmark) versus episodes of boom/rapid growth and stagnation/collapse (Papua New Guinea, Paraguay)

Country	Proportion of all 5 year (overlapping) growth rates in the growth categories:						Average GDPPC ('000)	Average growth (all countries in the range 1.5 to 2.5 ppa)
	<2 (collapse)	2<g<0 (stagnation)	0<g<2 Slow growth	2<g<4 Moderate growth	4<g<6 Rapid growth	6<g Boom		
	Sorted on sum of proportion in 'collapse' or 'stagnation'							
COG	0.140	0.279	0.140	0.116	0.093	0.233	2.98	2.4%
PNG	0.116	0.233	0.186	0.256	0.093	0.116	1.84	1.8%
PRY	0.019	0.308	0.385	0.192	0.038	0.058	3.83	1.5%
POL	0.182	0.121	0.030	0.273	0.394	0.000	8.66	1.8%
KHM	0.273	0.030	0.121	0.182	0.212	0.182	1.50	1.6%
SYR	0.116	0.140	0.233	0.279	0.186	0.047	1.97	1.8%
SVK	0.250	0.000	0.063	0.313	0.313	0.063	12.05	1.9%
ECU	0.019	0.231	0.423	0.192	0.058	0.077	4.27	1.7%
MAR	0.019	0.170	0.340	0.283	0.113	0.075	3.46	2.3%
MLI	0.093	0.093	0.372	0.419	0.000	0.023	0.85	1.6%
TTO	0.132	0.038	0.132	0.245	0.151	0.302	10.54	2.2%
CHL	0.115	0.038	0.308	0.269	0.173	0.096	8.74	2.1%
HUN	0.091	0.061	0.333	0.182	0.333	0.000	11.28	1.7%
MEX	0.038	0.113	0.264	0.415	0.170	0.000	7.31	2.0%
CHE	0.000	0.151	0.377	0.415	0.057	0.000	25.96	1.7%
LSO	0.023	0.116	0.279	0.326	0.209	0.047	1.28	2.3%
TUR	0.000	0.132	0.189	0.585	0.094	0.000	4.28	2.3%
CRI	0.075	0.038	0.264	0.566	0.057	0.000	7.11	1.6%
PHL	0.075	0.038	0.472	0.340	0.057	0.019	2.99	1.5%
COL	0.000	0.094	0.472	0.434	0.000	0.000	4.93	1.9%
CAN	0.000	0.075	0.321	0.585	0.019	0.000	20.90	2.2%
SWE	0.000	0.057	0.245	0.660	0.038	0.000	19.11	2.0%
NLD	0.000	0.038	0.321	0.509	0.132	0.000	20.22	2.4%
AUS	0.000	0.000	0.377	0.604	0.019	0.000	20.12	2.2%
DNK	0.000	0.000	0.377	0.491	0.132	0.000	19.53	2.5%
GBR	0.000	0.000	0.358	0.642	0.000	0.000	17.78	2.2%
GER	0.000	0.000	0.576	0.424	0.000	0.000	23.29	1.9%
USA	0.000	0.000	0.491	0.491	0.019	0.000	25.31	2.2%

Source: Authors' calculations with PWT6.3 data (Heston, Summers, Aten, 2009).

In thinking about what a theory of (inclusive) growth might be it is important to start with the notion that the growth *rate* over any given period is not a summary statistic of a country's growth *experience*[6].

2b Phase transitions across growth states

The time countries spend in any given growth state (collapse, moderate growth, boom) over an extended period can be thought of as determined by the realization of a sequence of phase transitions, where in any given year there is a set of transition probabilities of moving from one growth state to another (including of course remaining in the same growth state). The transition matrix across growth states in Table 2 is the array of probabilities of transiting from any given growth category in one period into another growth category (including staying in the same category) in the next period. The "main diagonal" is the probability of remaining in the same growth state, while off-diagonal elements are the probabilities of transiting into better or worse growth states.

[6] Most economists have faulty intuition on this because they work with OECD data for which this is true. That is, a linear trend through (ln) GDP per capita really does have an R-squared of .95 or more in most OECD countries—the single number of the trend does encapsulate the time evolution of the variable . This is obviously not true of countries like Ghana or Cambodia where "the" trend explains very little Pritchett, L. (2000). "Understanding Patterns of Economic Growth: Searching for Hills Among Mountains, Plateaus, and Plains." World Bank Economic Review **14**(2): 221-250.

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Table 2: Transition matrix of probabilities across growth states

		Current growth condition					
		1 Collapse	**2 Stagnation**	**3 Slow growth**	**4 Moderate growth**	**5 Rapid growth**	**6 Boom**
		g<-2	**-2<g<0**	**0<g<2**	**2<g<4**	**4<g<6**	**6<g**
Future growth condition	**g<-2**	$P_{C,C}$ **(remain in collapse)**	$P_{St,C}$	$P_{SG,C}$	$P_{MG,C}$	$P_{RG,C}$	$P_{B,C}$
	-2<g<0	$P_{C,St}$	$P_{St,St}$ **(remain stagnation)**	$P_{SG,St}$	$P_{MG,St}$	$P_{RG,St}$	$P_{B,St}$
	0<g<2	$P_{C,SG}$	$P_{St,SG}$	$P_{SG,SG}$ **(remain in slow growth)**	$P_{MG,SG}$	$P_{RG,SG}$	$P_{B,SG}$
	2<g<4	$P_{C,MG}$	$P_{St,MG}$	$P_{SG,MG}$	$P_{MG,MG}$ **(remain in moderate growth)**	$P_{RG,MG}$	$P_{B,MG}$
	4<g<6	$P_{C,RG}$	$P_{St,RG}$	$P_{SG,RG}$	$P_{MG,RG}$	$P_{RG,RG}$ **(remain in rapid growth)**	$P_{B,RG}$
	6<g	$P_{C,B}$	$P_{St,B}$	$P_{SG,B}$	$P_{MG,B}$	$P_{RG,B}$	$P_{B,B}$ **(remain in boom)**

*Source: Author***.**

The time each country is in each growth category (π^i) in equation 1 and empirically in Table 1 is the result of the results of the initial state for each country plus a transition matrix, which gives the probability of making the transition from growth category (e.g. 'moderate growth') to another growth category (e.g. downward to 'stagnation' or upward to 'boom') where the transition matrix probabilities contain elements which are country specific and elements which are dynamic (e.g. terms of trade, policies, civil wars).

Table 3 gives examples of various types of dynamics that could exist in the growth transition table using the proportion of time spent in various growth categories, this time using 10 year growth rates—which provides more "stability" than five year growth as it smoothes out the 'business cycle' fluctuations even more.

- "Stable moderate growers" are concentrated in the middle two categories, which must mean that the probabilities of staying "slow growth" or "moderate growth" are very high

(that is, the sum of $P_{SG,SG}$, $P_{MG,MG}$, $P_{SG,MG}$ and $P_{MG,SG}$ must be near 1). Nearly all OECD countries are in this category, plus a *very* few other stable growers (e.g. Colombia, Turkey) among the developing countries.

- "Collapses" are countries that spent more than half of their entire period in either 'collapse' or 'stagnation.' There are 21 of 120 countries in this category, nearly all in Africa, but also oil producers (e.g. Saudi Arabia, Kuwait) and/or persistent conflict (e.g. Lebanon, Afghanistan, Iraq) and Haiti. These countries have a transition matrix with high probabilities of staying in the low categories ($P_{C,C}$, $P_{St,St}$, $P_{C,St}$ and $P_{St,C}$) and when they are in the higher growth categories they have low probabilities of persistence in those categories (or transitions to better growth rates) and relative high probability of shifting from moderate or rapid growth states to stagnation or collapse.
- "Rapid growth" are countries that spent more than half of their time in growth over 4 ppa (either '*rapid growth' or 'boom')*. This category only includes 8 of 120 countries, all East Asian with the exception of Botswana. Obviously these countries managed to create high probabilities of sustaining booms and/or rapid growth (e.g. $P_{B,B}$ or $P_{B,RG}$ are high).
- The most interesting category is "boom *and* bust"—countries that spent more than 10 percent of their time in **both** *stagnation* or *collapse* **and** *rapid growth* or *boom.* Even with 10 year periods a quarter of all countries (30 of 120) are in this category.
- The rest of the countries are sprinkled around, with movement among the growth states.

Table 3: Examples of various "types" of transition dynamics, using 10 year (overlapping) growth rates

Country	Proportion of all 5 year (overlapping) growth rates in the growth categories:					
	<2 (collapse)	2<g<0 (stagnation)	0<g<2 Slow growth	2<g<4 Moderate growth	4<g<6 Rapid growth	6<g Boom
Steady Moderate Growers (sum of category 3 and 4>.9) (27 of 120 countries)						
TUR	0.000	0.000	0.417	0.583	0.000	0.000
GBR	0.000	0.000	0.208	0.792	0.000	0.000
COL	0.000	0.000	0.708	0.292	0.000	0.000
Growth collapses (sum of category1 and 2 > .5) (21 of 120 countries)						
HTI	0.184	0.474	0.211	0.132	0.000	0.000
LBR	0.571	0.179	0.036	0.036	0.071	0.107
SOM	0.643	0.357	0.000	0.000	0.000	0.000
Boom **and** Bust (time in *both* growth states 1 and 2 (collapse and stagnation) *and* in growth states 5 and 6 (rapid growth and boom) above .1) (30 of 120 countries) (not mutually exclusive with above, can include 'collapses' if they have booms)						
BRA	0.000	0.104	0.417	0.063	0.354	0.063
GHA	0.070	0.209	0.419	0.163	0.023	0.116
PNG	0.000	0.316	0.263	0.263	0.132	0.026
Rapid growth (sum of 5 and 6 above .5) (8 of 120 countries)						
BWA	0.000	0.000	0.132	0.184	0.342	0.342
KOR	0.000	0.000	0.022	0.244	0.356	0.378
TWN	0.000	0.000	0.000	0.128	0.298	0.574

Table 4 from Hausmann, Pritchett and Rodrik (2005) shows that episodes of acceleration into rapid growth start and end in very different ways: some continue rapid growth (the bottom row), some suffer a slow-down (the middle row), some implode into negative growth (the top row). And countries come into episodes of rapid growth from various starting points. Indonesia had negative growth before the growth acceleration episode that began in 1967 and continued growth above 2 ppa in the ten years after the episode (1977 to 1987). Ghana has a positive growth episode from 1965 from 1972, but has negative growth before and negative growth after (see Figure 2c above). Countries that had overall rapid growth are those that had growth, accelerated to even faster growth episode and then continued growth (e.g. Singapore's acceleration in 1969).

Brazil was one of the most rapidly growing economies in the world from 1966 to 1980 but then had less per capita growth in the *two decades* from 1980 to 2000 than it had had in a typical *year* from 1966 to 1980. The episodic nature of growth also includes countries that go from extended boom to extended bust. Cote d'Ivoire grew at 3.2 ppa from 1960 to 1978 and then over the next 18 years *fell* at .7 ppa. Venezuela grew at 2.8 ppa from 1950 to 1974, then over the next 29 years *fell* at an average of 1.5 ppa. This implies that, at least for many developing

economies, the probabilities of transitions into states of rapid growth or into collapse are non-trivial.

Table 4: Episodes of rapid growth classified by growth rates before and after the episode

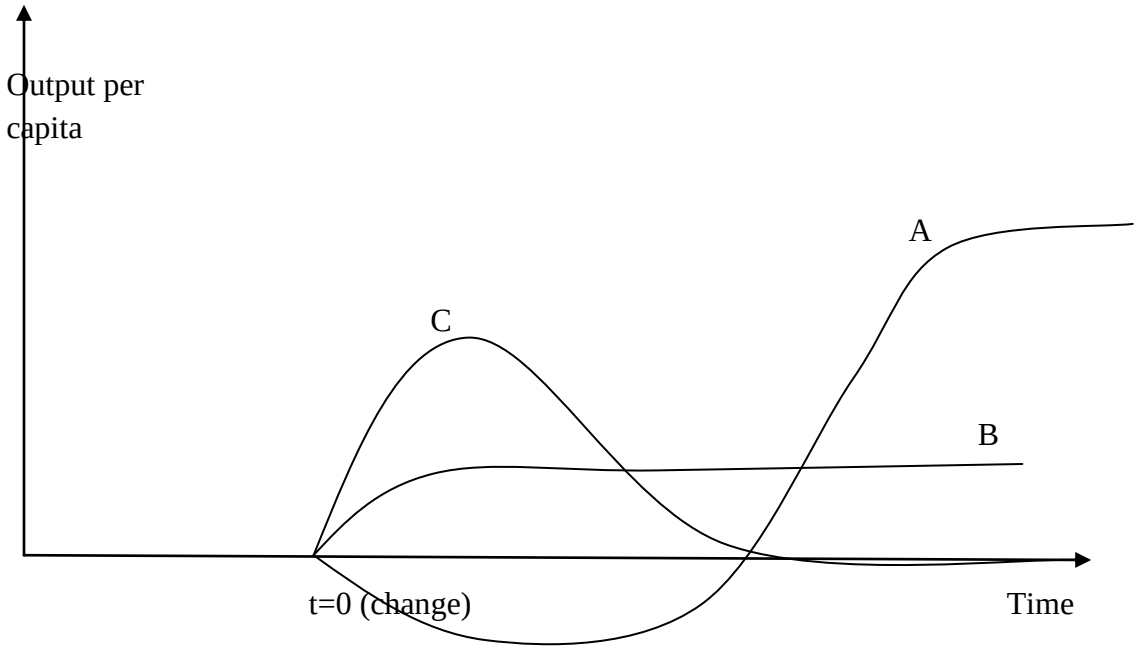
Growth rate in the ten years from seven years **after** the initiation of the growth episode (t+7 to t+17) (with at least 7 years of data—no episodes after 1986)		Growth rate in the seven years **before** the initiation of the episode of rapid growth (t, t-7)		
		Negative before (<0) (15/69)	Slow before (>=0 & <2) (32/69)	Above average before (>=2) (22/69)
	Negative <0 (after) (16/69)	GHA65 GNB69 JOR73 NGA67 TCD73 (*slow to growth episode back to slow)*	ECU70 MLI72 MWI70 RWA75 TTO75	COG78 DZA75 IDN87 PAN75 ROM79 SYR74 (*fast to growth episode to slow growth)*
	Slow =<0 & >2 (after) (16/69)	DOM69 PAK62 UGA77	ARG63 ZWE64 AUS61 COL67 GBR82 LSO71 NIC60 NZL57 URY74	BRA67 ISR67 PRY74 THA86
	Above average >=2 (after) (37/69)	CHL86 CMR72 EGY76 IDN67 MAR58 MUS71 THA57 (*slow to growth episode and stays rapid)*	CAN62 ESP84 PER59 IND82 PRT85 IRL58 SYR69 IRL85 USA61 KOR62 LKA79 MUS83 CHN78 NGA57 COG69 PAK79 DNK57 PAN59	BEL59 TUN68 BWA69 TWN61 ESP59 FIN58 FIN67 ISR57 JPN58 KOR84 MYS70 SGP69 (*fast to growth episode (even faster) to fast*)

Source: Hausmann, Pritchett, Rodrik (2005), table 2.3.

2c Posing the right questions about inclusive growth

Suppose we are interested in growth empirics for "practical" reasons, that is, suppose we want to provide guidance to real world actors (we are avoiding the term "policy makers" for reasons that will become obvious). Then what would be of great interest is the "impulse response function" of the level of output in response to feasible actions. That is, suppose actors were able to change at time t through some feasible actions some feature of the economy (terms of trade, policy, institutions, etc.) from X to X' such that that change persisted forever. What would be the path of the level of output per capita relative to the counter-factual of X having remained constant? This entire path is the "impulse response function" as illustrated in Figure 3 for three possible actions A, B and C. "A" has adjustment costs and hence reduces output over the short-run but has massive long-run effects. "B" has immediate impact, but limited. "C" has positive short-run impact but no long-run impact.

Figure 3: Illustration of the impulse response function of actions/events A, B, C on the level of output



Source: Authors.

A huge empirical literature on the theory and empirics of growth has focused on a simple "conditional convergence" equation in which growth (g or change in (log) output y from t-n to t) in a period is a function of its previous level (y at t) and a set of "growth determinants" (X's).

$$y_t^k - y_{t-n}^k = \lambda y_{t-n}^k + \beta X_{f(t,n)}^k$$

The problem with the single equation representations of growth of the typical kind is that they impose that the "impulse response functions" to the dynamics of output are (a) constant across all growth states (and all countries), (b) the dynamics are constant across all variables, and (c) constant over time. These assumptions are problematic for three reasons. First, they are all demonstrably false.[7] Second, it is almost impossible to think of a plausible model of an economy in which this would be an adequate representation of the impulse response functions of the variables of interest. That is, just imagine that two determinants of a country's output are its terms of trade and level of human capital. There is no plausible situation in which we would expect changes in those variables to have the same impulse response *dynamics* on the level of output.

Finally, and more importantly, this representation just has not been very useful in explaining the actual dynamics of growth over time in a way that could inform what actors engaged in promoting economic growth could actually do. One striking example is of course the "lost decades" of growth in Latin America in which nearly every country undertook substantial economic reform and yet had extremely slow growth for nearly two decades ((Easterly, Loayza et al. 1997)). That is, recent decades have seen massive changes in growth rates of different countries–e.g. the accelerations in China, India, Vietnam, the stagnation in Latin America, the transition depression in the former Soviet Union – and the standard growth models has been able to explain almost none of those shifts ((2005; Rodrik 2006).

A "growth states and transitions" representation is that expected growth in country k is a function of the transition probabilities between its current state, *s*, (e.g. boom, stagnation, slow growth) to all other possible states, *j*, (including remaining in the same state) and the countries growth in state j (to allow for "within state" growth dynamics which could include both business cycle and longer frequency differences).

$$E(g^k) = \sum_j P_{s,j}^k(Z_{s,j}^k) * g^j(X_j^k)$$

At the most general level each of these transition probabilities might be different functions in each state. That is, a "policy outcome" variable like the magnitude of the "fiscal deficit" might have different impacts on the probability of transition from "moderate growth" to "stagnation" than on the probability of a transition from "collapse" to "slow growth" – in fact almost no model grounded in economic fundamentals would predict constancy.[8]

[7] Nearly all growth regressions show instability across nearly all these dimensions. That is, the coefficients in growth regressions are not stable across decades (e.g. regressions in the 1970s versus 1980s) nor across country groupings (e.g. 'developed' versus "developing"). Since parameter instability is an omnibus specification test this alone rejects this specification as adequate.

[8] Think of a growth regression as kind of "smearing" the correlates of growth across states. As Pritchett (2003) has shown even a statistically robust coefficient on a "policy" or "growth determinants" in cross-national regressions needn't have universal application as it is just some complex weighted average of impacts across states. As a simple example, suppose that in a period of "slow" or "moderate" growth an increased fiscal deficit increases the probability of a macro crisis while in a "stagnation" state a fiscal deficit can increase the likelihood of transition to a better growth state ("slow" or "moderate"). In this case reducing the fiscal deficit will be associated with slower growth in a cross section if the sample is dominated by countries in the state of "slow" or "moderate" growth, as it will be associated

Moreover, some of the features of the model that determine shifts across growth states might be characterized as "regimes" that is, broader configurations of "institutional" variables that condition the impact of other variables on growth states. As we will show "policy reform" will have very different impacts in "regimes" of "weak institutions" than in "regimes" of "strong institutions." In some sense we are using the word "regime" to characterize the "states" of non growth factors–like politics, social configurations, organizational capability. As we will show there are short to medium run dynamics of shifts of growth states within "regimes"–that is, countries that are autocracies with weak institutions have shifts between episodes of rapid growth and collapse without shifts in "regimes." There are also much longer-run dynamics of how shifts in growth states determine or condition the "regime" transitions.

In this formulation the practical questions for which growth theory of interest can be framed as:

What are the feasible actions to raise the probability of an acceleration from a state of slow growth to a state of more rapid growth?

What are the feasible actions that will sustain a favorable growth state and avoid a growth deceleration via a transition to a negative growth state (including the feedback from growth to other characteristics of the society, polity, or capability)?

In the "states and transitions" approach there is no pre-judgment that these answers will be constant (e.g. "free trade") or generalized across growth states (e.g. "reduce your fiscal deficit") or generalized across "institutional" contexts. This means there is no presumption that generic policy advice like "improve the investment climate"– even if effective in some contexts – will be effective in all contexts.

3. Institutions and growth: linking the medium- and long-run dynamics

There is by now a large body of empirical literature suggesting that "institutions" are important to long-run economic prosperity.[9] Studies that examine *levels* of GDP per capita (which are the result of very long-run growth rates) find an important (and arguably causal) role for institutions(Hall and Jones 1999; Acemoglu, Johnson et al. 2001). Even works that examine long term growth rates find "institutions rule" ((Easterly & Levine, 2003) (Rodrik, Subramanian,

with a switch to "stagnation." Therefore, in a state of "moderate" growth "reduce the deficit" is good policy advice, but to give that advice to a country in a state of "stagnation" is bad advice, no matter how robust the cross-national association of growth and fiscal deficits is (and even if one can use rigorous statistical methods to "prove" the relationship is causal in the cross-section).

[9] Forgive the pedantry of "institutions" in scare quotes, but, as its usage currently stands, the meaning of this word is too broad for use so for now we'll use it only as reference. The more abstract the noun the higher the risk of ambiguity and hence confusion while the benefit of abstraction is parsimony as, in principle, in hierarchical classification schemes one could replace each instance of an abstract noun with a list (e.g. each instance of the word "furniture" could be replaced by the list of items of furniture). The word "furniture" for instance has some uses but the request "Please bring me some furniture" is unlikely to lead to satisfactory outcomes. Since in common usage marriage, slavery, banking, civil service and parliaments are all "institutions" the use of the noun "institutions" has a risk of ambiguity high relative to the gain in parsimony.

& Trebbi, 2004) (Acemoglu, Johnson, & Robinson, 2003)) in that "institutions" are more robust in explaining economic growth than are "policies."

3a "Institutions" and the *volatility* of growth rates

One key fact that differentiates the growth performance of the "developed" countries from the "developing" countries is that developing countries are more likely to have negative shocks to growth and suffer serious reversals in those negative shocks. Table 5, adapted from North, Wallis and Weingast (2009), shows that when developing countries are growing they grow considerably *faster* than developed countries—about 1.5 ppa faster (5.37 versus 3.88). But during periods of negative growth the growth is much slower—2.3 ppa slower (-4.61 versus -2.33)—and the slowness when slower is slower than fastness when fast.

Table 5: The "developing" countries spend more time in negative growth states than the advanced industrial countries

Per capita income in 2000 (PPP)	Number of countries	Percent of Years with positive growth	Growth rate, when positive	Growth rate, when negative
>20,000 (non-oil)	27	84%	3.88%	-2.33%
"Developing" countries				
15,000 to 20,000	12	76%	5.59%	-4.25%
10,000 to 15,000	14	71%	5.27%	-4.07%
5,000 to 10,000	37	73%	5.25%	-4.59%
2,000 to 5,000	46	66%	5.39%	-4.75%
300 to 2,000	44	56%	5.37%	-5.38%
Average of <20,000			5.37%	-4.61%
Source: Adapted from North, Wallis, Weingast, 2009, table 1.2				

"Weak institutions" are capable of *initiating* episodes of rapid economic growth. But it appears "weak institutions" cause those growth episodes to not be sustained and in fact, end in "busts" or extended stagnation. As we saw above in Table 1 the probability that "developed" countries (those with "strong institutions") shift from growth into "collapse" is essentially zero. In contrast, even countries as large and sophisticated as Brazil have episodes of rapid growth but are susceptible to long periods of stagnation. Poorer countries like Ghana have had episodes of both boom and bust.

What makes the "institutions" and medium-run economic growth link difficult to tease out empirically is that empirical measures of "institutions" are highly persistent. This is almost by the definition, as "institutions" are defined as the "rules of the game" or "human constraints" or as "norms" or "conventions" that create stable expectations among actors. The famous Acemoglu, Johnson, Robinson (2001) paper on institutions argues for the causal identification of the impact of institutions on growth by using features of the world hundreds of years ago, death

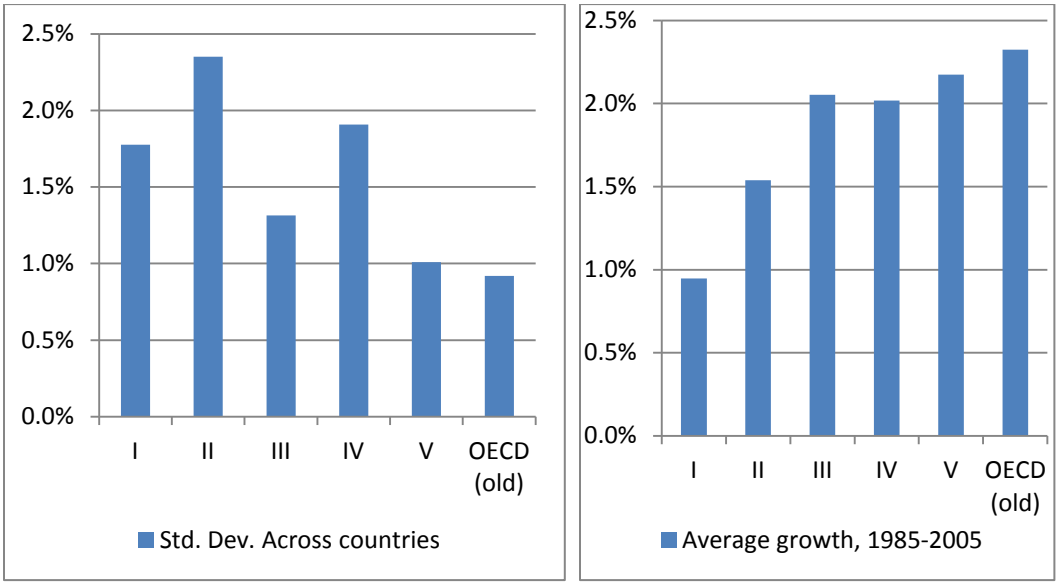
rates of settlers, that are correlated with measures of countries' "institutions" today. Obviously if the cross-national ranking of countries by "quality of institutions" were not *very* persistent this empirical strategy would not work.

But the importance of "institutions"—including measures of politics or the capability of the state—is hard to reconcile with the strong episodic nature of growth (Hausmann, Pritchett, Rodrik 2005) as economic growth changes massively over time scales too short for changes in 'institutions' (which are typically not volatile) to have been the cause of the acceleration. The real issue appears to be that weak institutions create the conditions for *both* boom and collapse.

This means that there is often a very strong connection between *levels* of prosperity and *levels* of the quality of "institutions" but the connection between the initial level of the quality of institutions and subsequent growth or between *economic* growth and *changes* in institutions is often very weak. What "weak institutions" mainly predict is a high *variance* of growth rates.

Figure 4 illustrates this using a measure of "governance" called "democratic accountability." The figure shows across the quintiles of "democratic governance" both the *average* growth rate for countries in that category but also the *variability* across countries. For countries in the lowest quintiles the *average* growth is significantly lower than for those in the middle quintiles. But even for countries in the fourth quintile in "democratic accountability" the variation is twice as high as for the highest quintile (or the OECD countries) (2 ppa vs 1ppa). The obvious point is that many of the highest growing countries in the world—India, China, Vietnam—only have middling levels of "institutions" by any measure while at the same time many of the countries in stagnation or with declining economies also have (or had middling governance—Brazil, Jamaica, Cote d'Ivoire).

Figure 4: There is wide variability in growth in countries, even with quite strong "institutions"



Source: Authors' calculations with PWT6.3 data and ICRG ratings of demoocratic accountability

The same is true of a number of other measures of "governance" or "institutions" as shown in Table 7. The interesting thing is that the "next to best" countries in governance (quintile IV) have growth that is *on average* twice as high as the worst countries (QI) and only about 20 percent higher than the (old) OECD. In contrast, the *variability* of the growth rates of countries with the next to best governance is, for a typical indicator, *twice as high* as the OECD and actually as high or higher than countries with the worst governance.

Table 7: The variability of growth across countries with the same rating of the quality of "institutions" or "governance" is high except for the OECD countries—whereas *average* growth is about the same

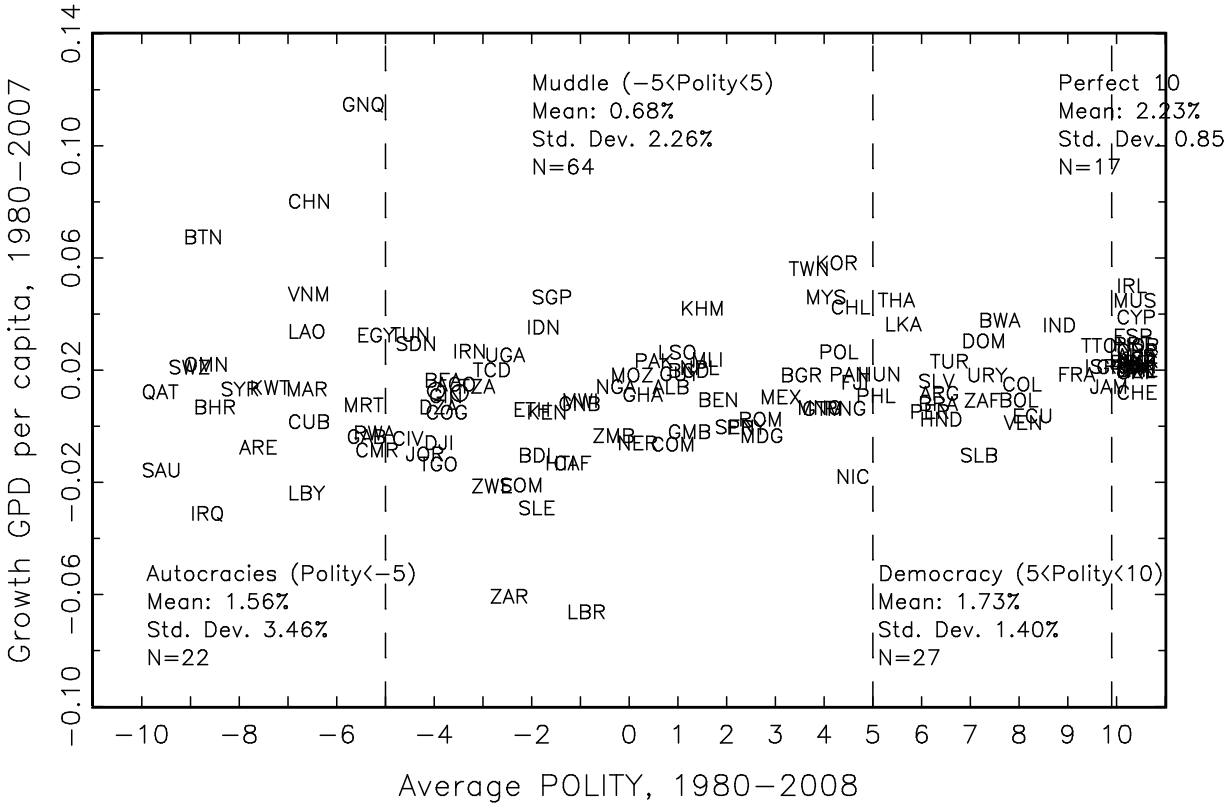
Indicator of "governance" or "institutions"	Quintiles of countries by indicator					OECD (old)	Quintile IV (nest to best) to Quintile I (worst)	Ratio of OECD to Quintile IV (next to best)
	I	II	III	IV	V			
	Average growth rates of GDPPC 1985-2005 for countries in each category						Ratios	
Quality of Government	0.7%	0.9%	1.8%	1.7%	2.4%	2.3%	2.5	1.3
Bureaucratic quality	0.8%	1.0%	1.9%	2.0%	2.2%	2.3%	2.5	1.1
Corruption	1.0%	0.9%	1.3%	2.2%	2.4%	2.3%	1.3	1.1
Law and Order	1.2%	1.3%	1.8%	1.8%	2.5%	2.3%	1.5	1.3
Democratic Accountability	0.9%	1.5%	2.1%	2.0%	2.2%	2.3%	2.2	1.2
Average							2.0	1.2
	Standard Deviation of growth rates of GDPPC across countries in the category						Ratios	
Quality of Government	2.0%	1.5%	2.8%	1.7%	1.1%	0.9%	0.8	0.5
Bureaucratic quality	1.9%	1.5%	2.3%	2.5%	1.0%	0.9%	1.3	0.4
Corruption	2.4%	1.6%	1.9%	2.2%	1.1%	0.9%	0.9	0.4
Law and Order	1.3%	2.0%	2.0%	2.1%	1.1%	0.9%	1.7	0.4
Democratic Accountability	1.8%	2.4%	1.3%	1.9%	1.0%	0.9%	1.1	0.5
Average							1.2	0.4

Source: Authors' calculations with PWT6.3 data on GDPPC and ICRG and QOG data for the indicators

This distinction between the *average* and the *variability* of growth has been pointed out in the literature for instance on growth and democracy. The main difference in the data in the growth rates of those countries which currently have electoral democracy and "autocracies" is that "autocracies" have a higher *variance* of growth rates. The highest and lowest economic growth rates tend to be in the "autocratic" category. Figure 5 shows the relationship between a countries' average POLITY score, which ranges from -10 (pure autocracy) to +10 (pure democracy) and their economic growth 1980 to 2008. Countries are divided into four groups: autocracies (average less than -5), muddle (countries that switched back and forth and have neither high nor low average), democracy (above 5 but not 10) and always democracy—a score that was always 10 (mostly the OECD). The *average* difference in growth between autocracies and democracy was only .2 ppa but the standard deviation among autocracies was 3.5 versus

1.4 for the democracies. This means an autocracy one standard deviation above the mean was growing at 5 ppa (=1.5+3.5) versus a one standard deviation above mean performer for the not perfect democracy group would grow at only 3.1 ppa (1.7+1.4). This is also true of "perfect" democracies as a one standard deviation above average growth performer would only grow at 3.1 ppa (2.23+.85). So being an autocracy is associated with a higher likelihood of being in a state of rapid growth than being a democracy—but it is also true of being in stagnation or collapses. The main difference is the *variability* not the average.

Figure 5: Average growth and average polity across countries 1980–2008



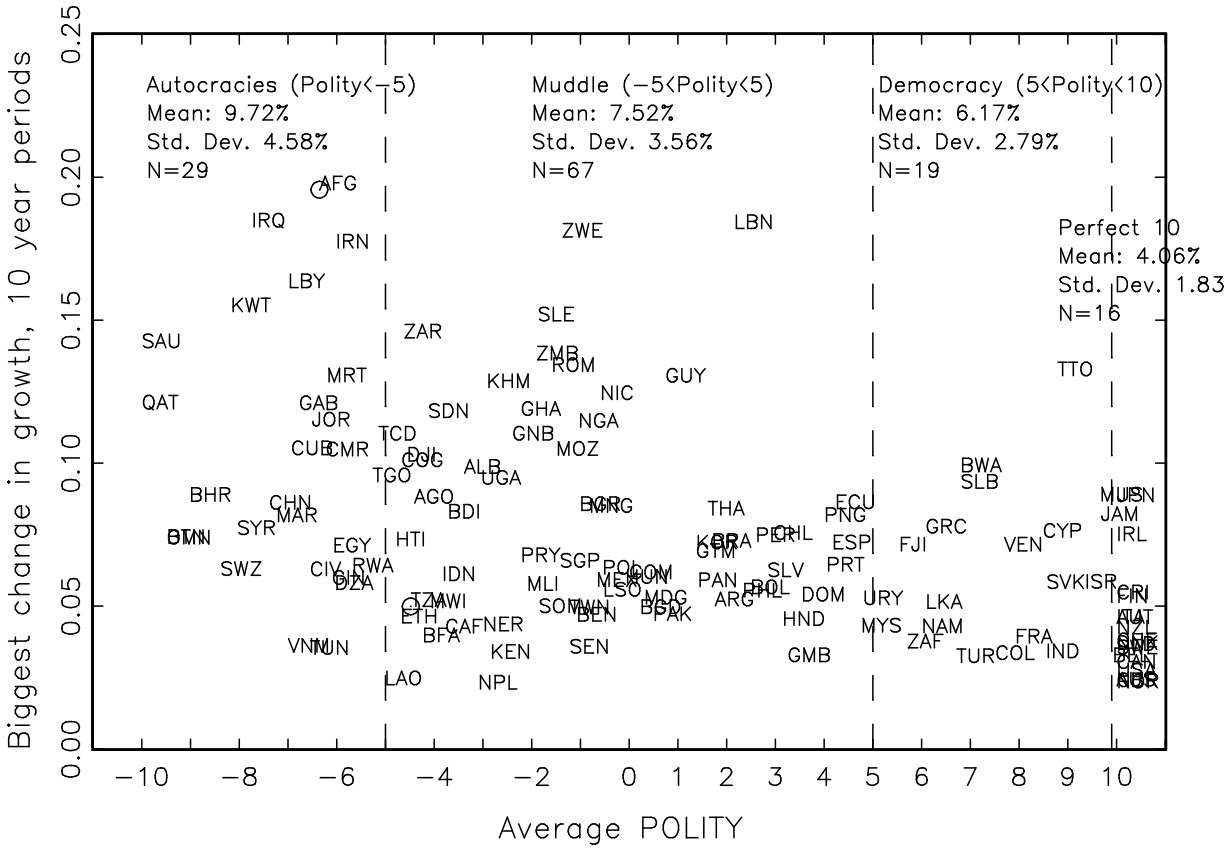
Source: Authors' calculations with PWT6.3 data and POLITY IV scores.

This relationship between the levels of indicators of political or administrative institutional quality is not just true of the variability of growth *across* countries but is also true of the volatility of growth rates *within* countries over time.

Figure 6a and 6b shows the relationship between the *range* of growth rates for a given country over time, that is, the simple difference between the highest and lowest 10 year growth rates of the same country (e.g. Zimbabwe had an episode of growth of 6 ppa and one of collapse of -12 ppa for a range of 18 ppa between highest and lowest, while Nepal's highest growth was 2.1 ppa but its lowest was 0 for a range of only 2.1). We see the same result for POLITY for *volatility* over time as for cross-national—that autocratic countries have much higher growth

volatility than the (mixed) democracies and the "perfect" democracies have by far the lowest growth volatility.

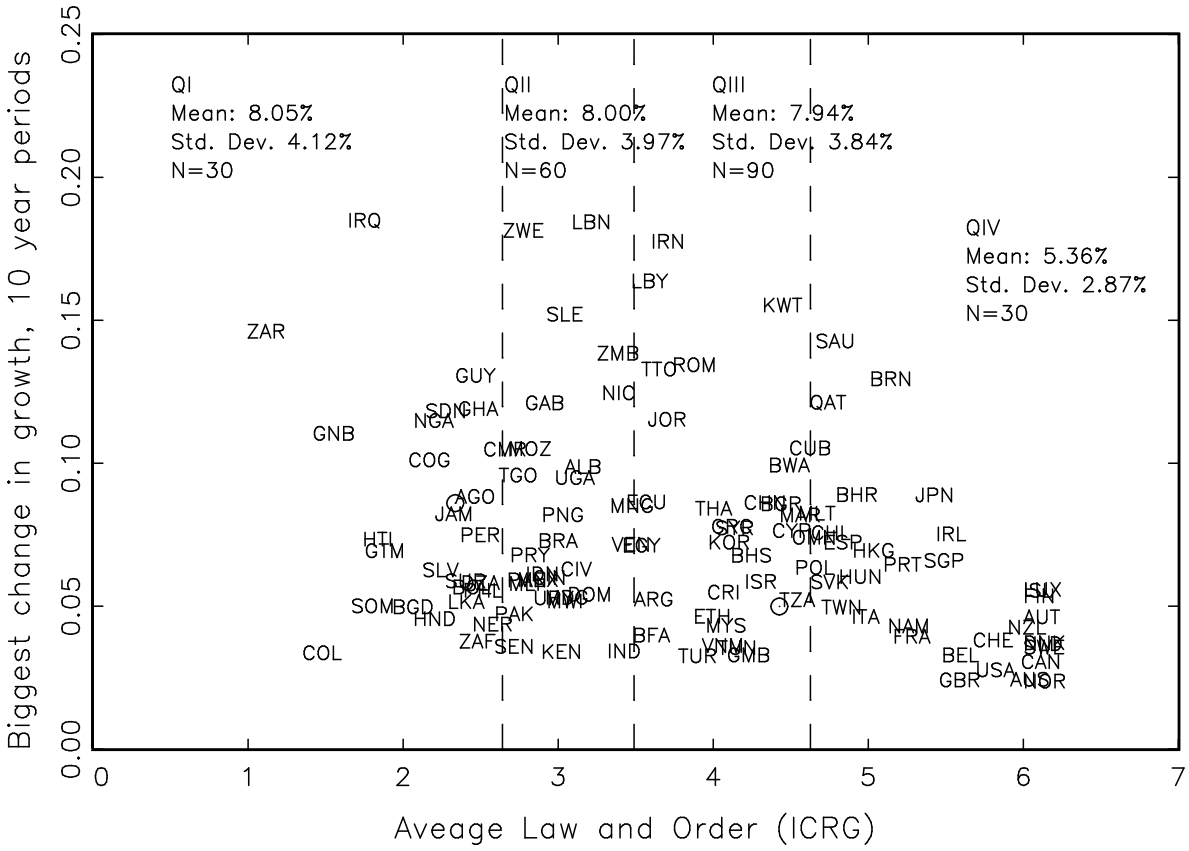
Figure 6a: Biggest range of growth and average Polity



Source: Authors' calculations with PWT6.3 data and POLITY data.

Figure 6b shows this same relationship for the quintiles of "law and order" and the volatility (range) of growth rates within a country over time.

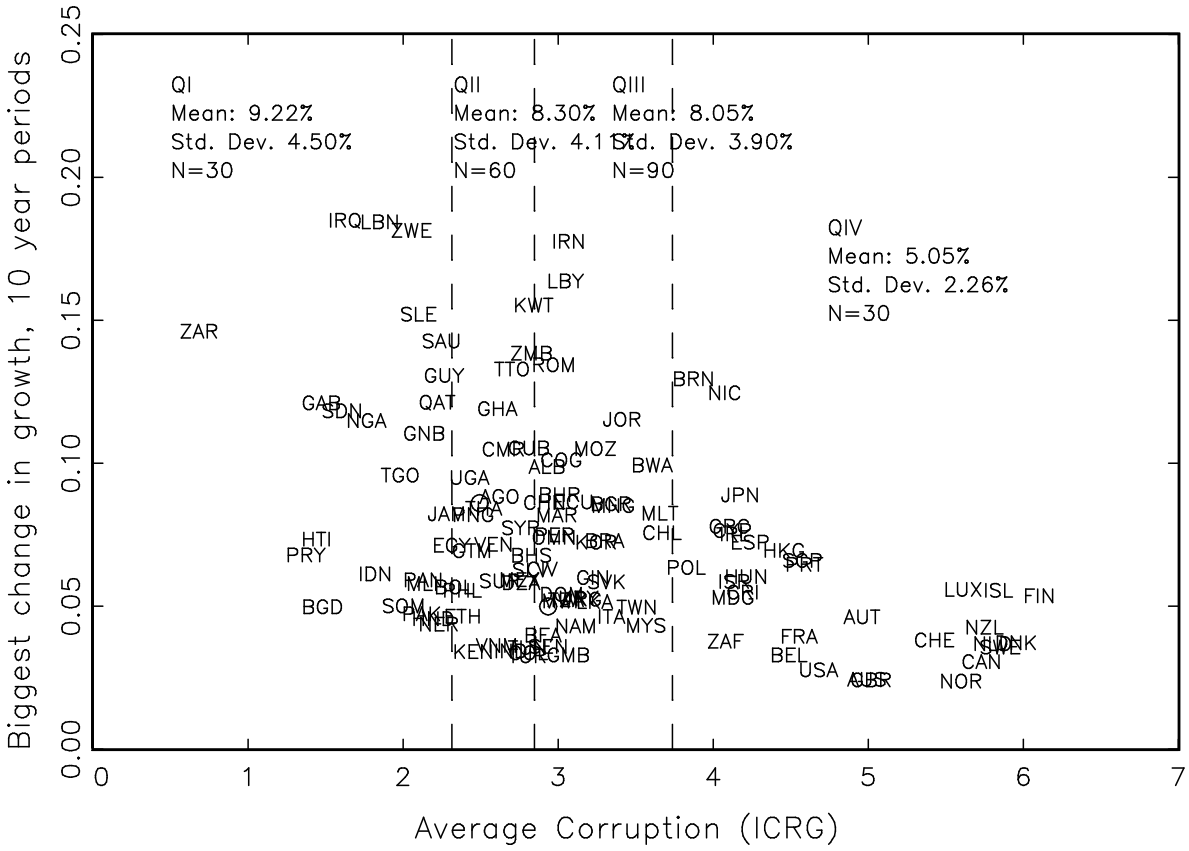
Figure 6b: Biggest range of growth and average Law and Order



Source: Authors' calculations with PWT6.3 data and ICRG data on bureaucratic quality.

Figure 6c shows this same figure for a measure of "corruption." This is just to make the point that it is not that "corruption" leads to persistently low growth. Rather, corruption is consistent with very high *and* very low rates of growth and in particular with switches between high and low growth even while maintaining high levels of corruption.

Figure 6c: Biggest range of growth and average Corruption



Source: Authors' calculations with PWT6.3 data and ICRG data on corruption.

3b The dynamics of growth and institutions

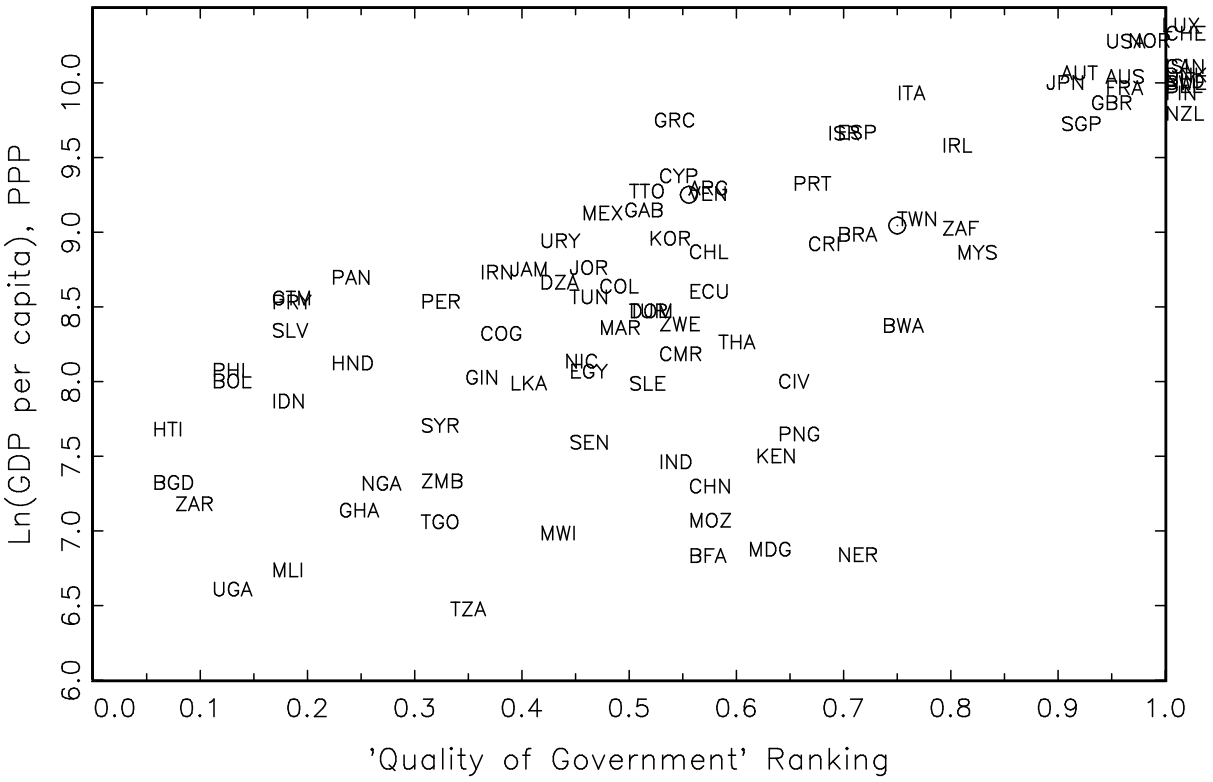
One of the puzzles to be reconciled is that although "institutions" are associated with *long run* growth rates, their predictive power for short- to medium-run (5 to 10 years) growth, or for growth *accelerations* is very weak. (Khan, 2007) makes the distinction between "market supporting governance" versus "growth promoting governance." He points out that, while "governance" measures are correlated with *levels* of GDP per capita, there is little or no predictive power of the current *level* of institutions for future growth rates.

We illustrate this by comparing the *level* of income and a measure of "governance" versus the *growth rate* and that same measure of governance and the *growth rate* and the *change* in the measure of governance. Whereas the first is strong the second is quite weak and the third near zero.

Figure 7a compares the (ln) *level* in GDP per capita and a ranking of "quality of government" from the Quality of Government Institutions which is an average of three indicators: rule of law, bureaucratic quality, and control of corruption (Teorell, Samanni, Holmberg, and Rothstein

2011). This shows the tight link between GDP per capita and QOG. Essentially all rich countries have reasonably high "quality of government" and all countries with high "quality of government" are rich. No country with GDPPC less than 5,000 PPP had a quality ranking of .7 or higher.

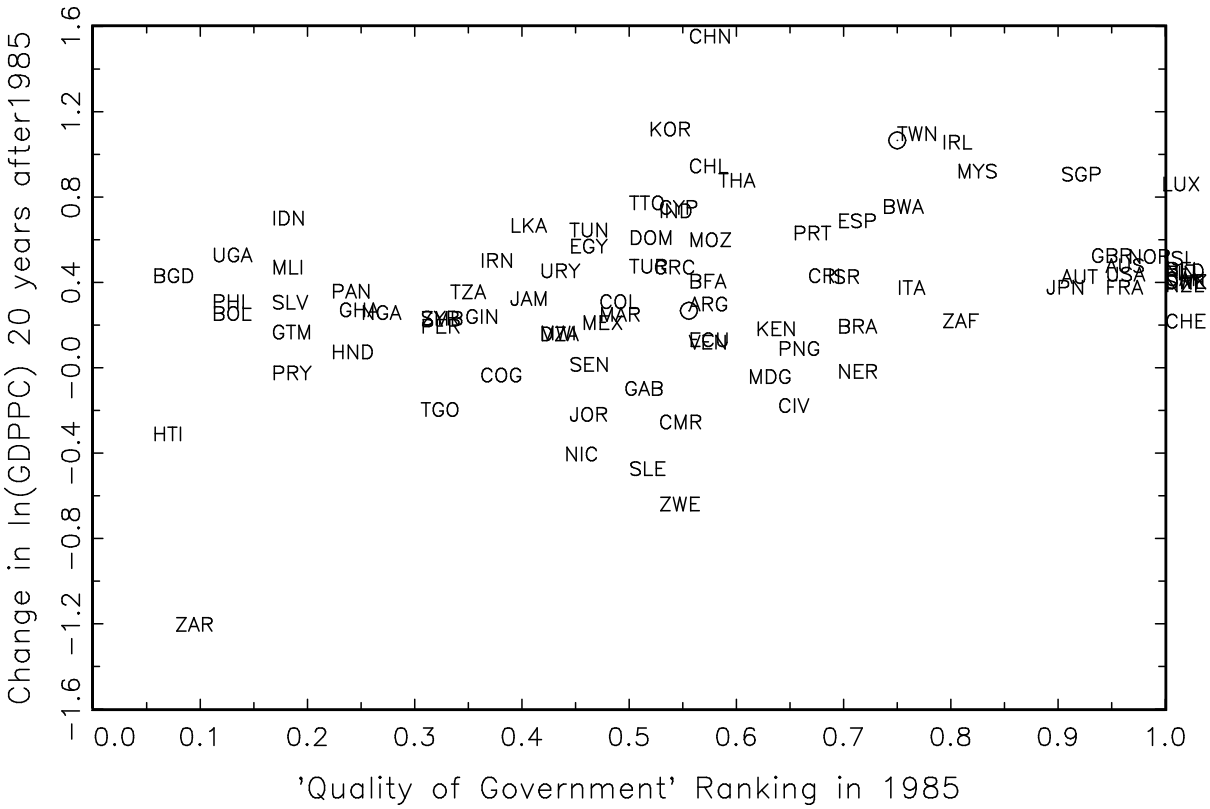
Figure 7a: ln(GDP pc) on 'quality of government'
(levels on levels)



Source: Authors' calculations with PWT6.3 data and QOG ranking.

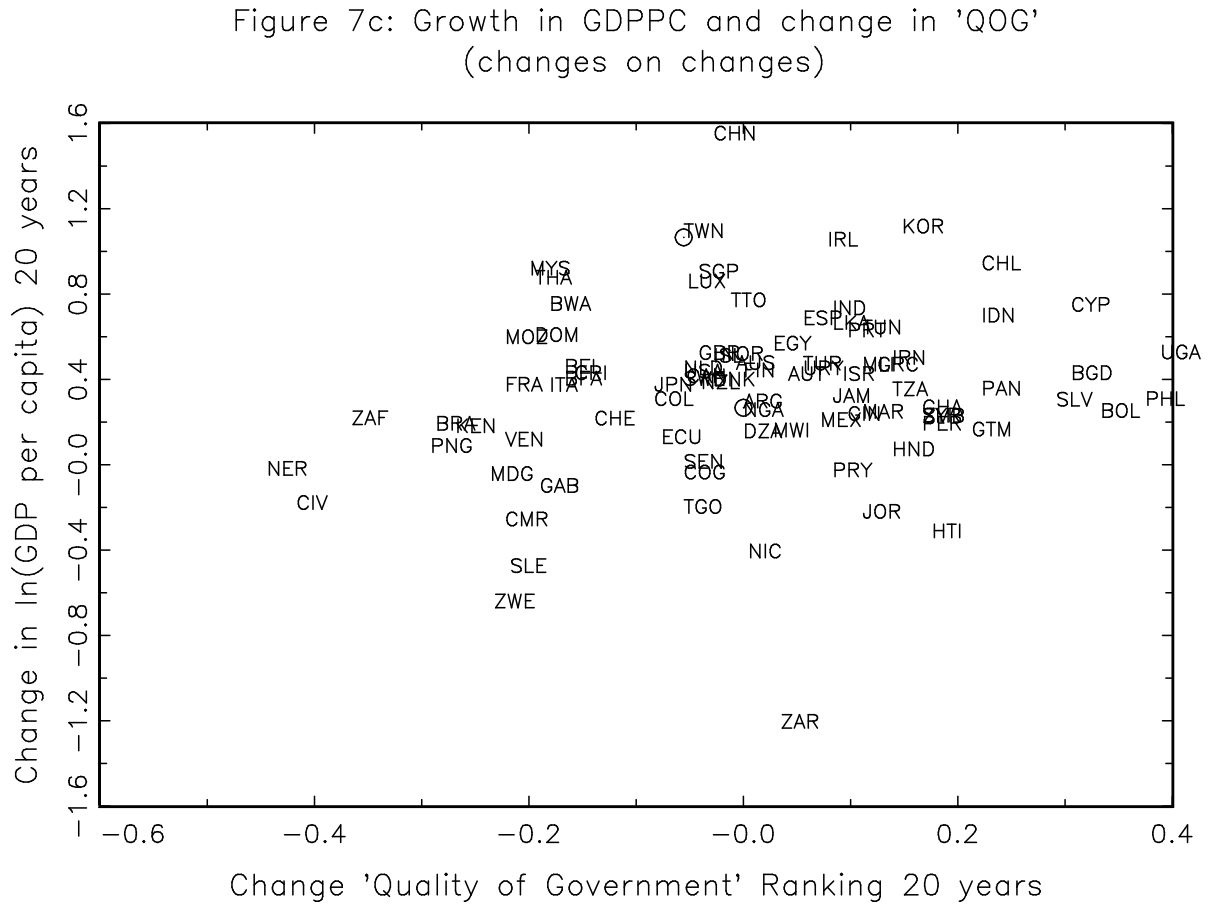
Figure 7b shows that the relationship between economic *growth* (the change in the (ln) level over 20 years) and the 'quality of government' is much weaker. Part of this is due to "convergence" effects as the richest countries grow more slowly because they have no room to "catch up" which leads to the highest 'quality of government' countries having average growth. But among countries with the same governance there are massive differences in growth (e.g. China versus Cote d'Ivoire) and countries with rapid growth (above .6) the 'quality of government' ranking ranges from .15 (Indonesia) to .9 (Singapore).

Figure 7b: Growth in GDP pc, 'quality of government'
(changes on level)



Source: Authors' calculations with PWT6.3 data and QOG ranking.

Finally, Figure 7c shows there is no link at all between the *improvement* in 'quality of government' and economic growth 1984 to 2004. A country like Uganda has massive improvement but exactly average growth, China has massive growth and no improvement at all, Malaysia saw QOG worsen but growth well above average, etc.



Source: Authors' calculations with PWT6.3 data and QOG rankning.

This is a common feature of the relationship between *levels* of per capita income and *levels* of various indicators of "institutions" and how the *dynamics* are related, either in the relationship between the *level* of "institutions" and *growth rates* or between *growth* of income and *improvement* in "institutions." Table 6 shows the R-squared of simple bi-variate relationships between (a) level of GDPPC and the *level* of the institutional variable, (b) *growth* of GDPPC and the *level* of the institutional variable and (c) *growth of GDPPC* and the *change* in the institutional variable. Even over 20 year periods there is almost zero correlation between the pace of economic growth and the speed of institutional improvement in any of the four variables. These very different dynamics raise the question of how economic conditions and the evolution of 'institutions' are related.

Table 8: Strong correlation between the *level* of income and 'institutions' but almost no connection between growth and institutions and even less of growth and changes in institutions, even over a 20 year period

Dynamics:	Bureaucratic Quality	Corruption	Law and Order	Democratic Accountability	Average
	R-Squared of regressing either level or growth in GDPPC 1985-2005 on the level or change in "institutions"				
Level of income on level of 'institutions'	0.457	0.434	0.464	0.476	0.472
Growth of GDPPC on *initial level* of 'institutions'	0.094	0.064	0.077	0.058	0.074
Growth of GDPPC on changes in 'institutions'	0.027	0.001	0.014	0.016	0.016
Number of countries (non-oil)	92	92	89	89	
Initial Year	1985	1985	1985	1985	
Duration	20	20	20	20	

Source: GDPPC data from Penn World Tables 6.3, ICRG rankings for 'institutions'

If there are "conditions" that facilitate "inclusive growth" (as a transitional phase) that lead to "inclusive prosperity" in the long-run, then clearly a priority research question is "What leads to countries having the conditions conducive to inclusive growth?"

3c Medium- and long-run dynamics of growth and institutions

North, Wallis, Weingast (2009) take the very long-run view and divide societies into "open order" societies and "natural order" societies. Their description of "open order" corresponds roughly to one version of "good institutions"—rule of law (as both the formal and informal "rules of the game"), social equality and equal opportunity, political liberalism, and a policy controlled principally by the citizenry. The version of "open order" societies includes only the "rich industrial" countries: Western Europe, Areas of Recent Settlement, and Japan, which at some point in history became "open order" societies and remained so. The rest are "natural order" societies which, although some have made more progress than others, and some have reached "door step" conditions, none have decisively and irreversibly reached "open order" status.

There are three elements to the dynamics of the NWW view, which are illustrated in Figure 8.

First, being a "developed" or an "open order" state is stable (what in Markov transitions is called an "absorbing state") in that once a society is open order the pressures are to stay open order. The "phase dynamics" (the equations of motion of "off equilibrium" situations) of this condition are that positive economic shocks reinforce the quality of institutions and positive institutional shocks reinforce support higher levels or prosperity things get steadily better and better. These positive dynamics explain why even though things are much, much better in the "developed" world now than in 1913 on both productivity and institutions this happened in an enormously

stable, steady, continuous way (in most cases). Nearly every society that was among the most developed in 1913 is still among the most developed today[10] and vice versa[11]: very few countries among the most developed today were not among the most developed in 1913.

If we talk about "states" of growth and "regimes" of "institutions" then being "developed" is an absorbing state in that once arrived there are both autonomous pressures within each domain (e.g. the persistence of "liberal democracy" has other determinants besides growth) and positive feedback loops between states of growth and 'institutional' regimes.

Second, if countries stay in "natural order" situations it must be the case that the dynamics are consistent with that relative (or absolute) stagnation. In particular, it must be the case that income increases do not cause (rapid?) improvements in 'institutions' that facilitate further inclusive growth (positive feedback loops), at least on average. A "poverty trap" dynamic could be one in which there are no/weak pressures for 'institutional' improvement and in which positive shocks to income (e.g. terms of trade, technological change, expanding world economy) do not (on average) lead to institutional improvements. In fact, if positive shocks lead to *weaker* 'institutions' then positive policy shocks will have offsetting impacts in the deterioration of 'institutions' (we will give examples of when this dynamic might occur later).

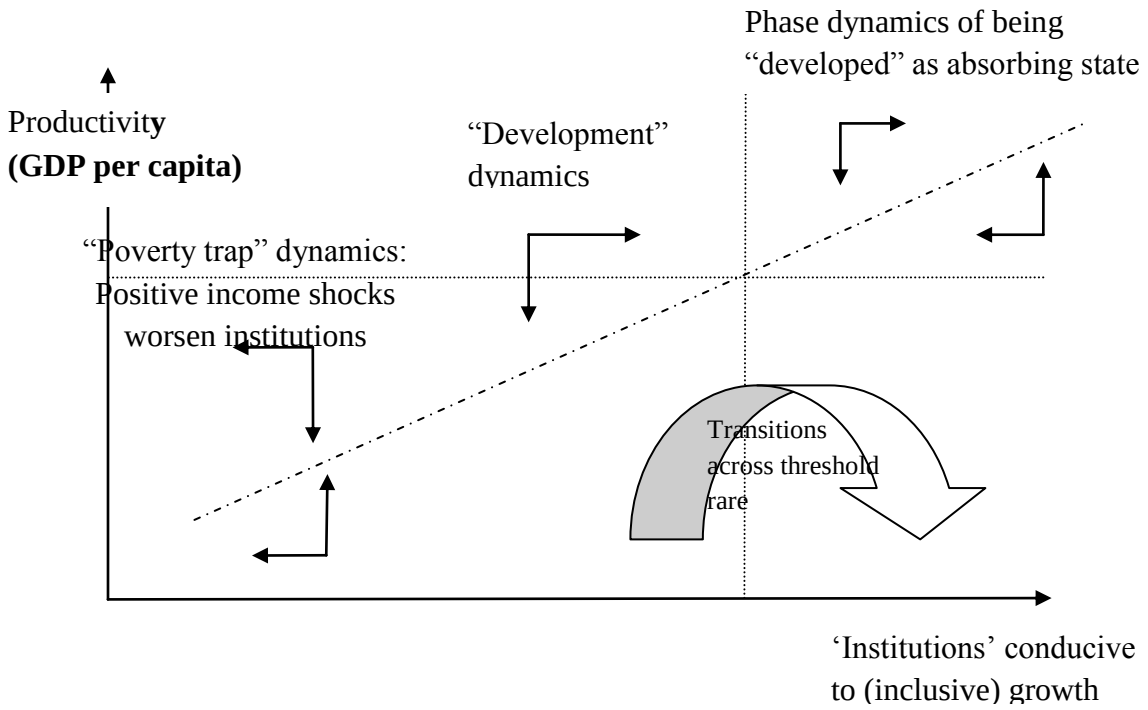
Again, if a "poverty trap" is an absorbing state of poor growth states and weak 'institutional' regimes then there must be dynamics of both autonomous/exogenous forces and feedback loops that sustain this.

Third, there have to be some countries that cross some threshold (in income? in 'institutions') in which the phase dynamics shift and hence become "developed."

[10] The economic historian Simon Kuznets has a saying "There are two exceptions to every rule: Argentina and Japan." Argentina was unambiguously among the world's richest countries in 1913 (ranked 10th) and yet is not in the first rank today (ranked 46th)—falling from three quarters of the US level to only a quarter of the US level. This is one of the many things that make Argentina endlessly fascinating—what did it lack in 1913 that allowed it to fall from (apparent) "open order" status? Was it really "only" a "natural resource" wealthy state—like the Gulf oil states that are "rich" but not "developed"—based on wheat and beef not oil? Was it due to the concentration of wealth or the lack of immigrant attachment? Or was it just that, unlike many countries far behind it in GDPPC in 1913, it was far from Europe?

[11] The current list of top income country includes a very few East Asian countries—Singapore, Japan, Korea, Taiwan.

Figure 8: Joint dynamics of economy and 'institutions'

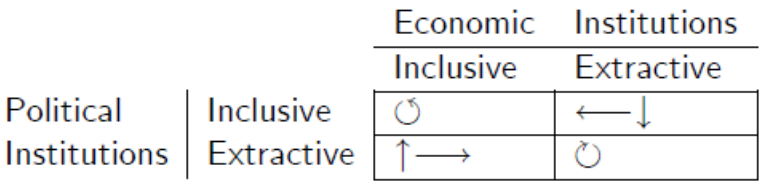


Source: Authors.

The theories of (very) long-run growth that posit that 'institutions' causally affect the level of achievable productivity and hence growth over the long horizon but argue that the dynamics of 'institutions' are either (a) autonomous, (b) due to underlying cultural, geographic or technological factors and/or (c) are, from low starting conditions, affected *negatively* by positive shocks to the economy may well be largely predictive but lack prescription. That is, it might be that these theories are right that, at least from certain starting points, countries are doomed to failure, in that the local dynamics from those starting points do not contain trajectories of "development."

Acemoglu and Robinson's forthcoming book on "Why Nations Fail" has a similar set of dynamics. In their account there are political and economic institutions and these can be either "inclusive" or "extractive." Figure 9, taken from a presentation of Acemoglu illustrates this same point: that the combination of politically and economically inclusive institutions is stable (e.g. "development" or "open order" in NWW) and the combination of politically and economically extractive institutions is stable (e.g. "poverty trap" or "natural order" in NWW) but that the "off diagonal" combinations of extractive political institutions with inclusive economies or extractive economies with political inclusive institutions are not stable.

Figure 9: Dynamics of 'Why Nations Fail'



Source: Acemoglu (2011) http://econ-www.mit.edu/files/6699

The "off diagonal" instability can be resolved either through progress (e.g. one set of institutions becomes inclusive) or deterioration. There are a number of cases of very rapid and nearly complete transition from "undeveloped" to "developed." Interestingly, there are very few countries that have *both* had *sustained* rapid growth *and* now (in 2008) have high indicators both politics (democracy) and quality of state 'institutions' (which might be empirical indicators of "inclusive political institutions").[12] In fact, as seen in Table 9, there are only nine countries since 1950 that meet these three criteria, five are in Europe (and the rapid growth episodes there were often catch up from the war), and then Japan, Korea, Israel, and Chile.

[12] Acemoglu and Robinson are clear that simply "electoral democracy" is neither necessary nor sufficient for "politically inclusive institutions."

Table 9: Development success in multiple dimensions has been rare						
Country	Region	Extended high growth episode (>4ppa)?	Growth during high growth episode	Democratic in 2008	Good BQ and low corruption in 2008	Above average growth since 1950/data begins
High growth episode, high polity, high "institutions" (9 countries)						
JPN	East Asia	yes	7.9%	Yes	Yes	yes
KOR	East Asia	yes	6.8%	Yes	Yes	yes
ESP	Europe	yes	5.8%	Yes	Yes	yes
PRT	Europe	yes	5.4%	Yes	Yes	yes
IRL	Europe	yes	5.2%	Yes	Yes	yes
ISR	?	yes	4.8%	Yes	Yes	yes
AUT	Europe	yes	4.8%	Yes	Yes	yes
FRA	Europe	yes	4.2%	Yes	Yes	yes
FIN	Europe	yes	4.0%	Yes	Yes	yes
CHL	South America	yes	4.5%	Yes	Yes	no
High Growth episode, low Polity, high "institutions" (1 country)						
SGP	East Asia	yes	6.4%	No	Yes	yes
High growth episode, high polity, low "institutions" (10 countries)						
BWA	Africa	yes	7.4%	Yes	No	yes
TWN	East Asia	yes	7.1%	Yes	No	yes
ROM	Europe	yes	7.1%	Yes	No	yes
GRC	Europe	yes	6.0%	Yes	No	yes
MYS	East Asia	yes	5.1%	Yes	No	yes
BRA	South America	yes	5.0%	Yes	No	Yes
ITA	Europe	yes	4.8%	Yes	No	Yes
IDN	East Asia	yes	4.7%	Yes	No	Yes
PAN	South America	yes	4.1%	Yes	No	Yes
TTO	Caribbean	yes	4.6%	Yes	No	No
High growth episode, low Polity, low "institutions" (9 countries)						
CHN	East Asia	yes	7.8%	No	No	Yes
THA	East Asia	yes	5.6%	No	No	yes
VNM	East Asia	yes	4.6%	No	No	yes
EGY	Middle East	yes	4.4%	No	No	yes
IRN	Middle East	yes	5.1%	No	No	no
COG	Africa	yes	4.5%	No	No	no
MAR	Middle East	yes	4.2%	No	No	no
OMN	Middle East	no	4.0%	No	No	yes
GAB	Africa	no	4.0%	No	No	no

Sources: PWT6.3 for GDPPC growth, ICRG ratings of Bureaucratic Quality, Corruption, and Democratic Accountability. POLITY data on 'democracy' "Democratic" is POLITY>=6 and DA>=3.5 (scale 0 to 6)."Good BQ and low corruption" is BQ>=2.5 (scale 0 to 4), CC>=3 (scale 0 to 6).

But there are many other trajectories of growth besides steady growth or rapid growth. Most countries have episodes of rapid growth than end in another episode of either extended stagnation or even collapse.

4. Deals versus rules: *de jure-de facto* gaps and capability of policy implementation

Discussions of "inclusive" or "extractive" political or economic institutions often focus on the rules. But in the actual operation of exclusive economic institutions (which are linked to politics) the extractive nature of economic arrangements is often masked by the appearance of "rules." However, this section focuses on the fact that in a regime of weak capability for policy implementation—that is, a weak capability of the organizations for legal and policy enforcement to enforce rules—the actual practice is "deals" and there are ubiquitous and widespread deviations of actual practice from "rules" that create winners and losers and prevent inclusive economic institutions from emerging.

4a Gaps between *de jure* and *de facto*

Rules? In a knife fight? No rules!
--Butch Cassidy and the Sundance Kid

Perhaps the key feature that distinguishes "developing" countries is the *gap* between the official, formal, legal, *de jure* laws and regulations and what actually happens. The stated "rules of the game" have near zero predictive power for what will actually happen. Let us start with four simple examples.

(Bertrand, Hanna, Djankov, & Mullainathan, 2007) study the process of getting a driver's license in Delhi. The official *rules* for getting a driver's license looked a lot like everywhere else, (a) prove your age, residence, identity and (b) demonstrate you can operate a motor vehicle and the agent authorized by the state will issue a legal document allowing you to drive. A simple mapping from "states of the world" (meet the criteria) to "policy implementation outcomes" (granting legal authorization to drive). In reality what happens depends on whether the applicant hires a tout or not. For those in the control group that did *not* hire a tout nearly all of them did have to take the driver's examination. For those who *did* hire a tout only 12 percent had to take the driver's exam. So the official rules predicted that 100 percent of applicants would take a driving examination, the reality was that this was entirely contingent on whether the applicant hired a tout (and hence most did).

(Pritchett & Sethi, 1994) obtained tariff code line data on the *ad valorem* tariff, the import revenue and the tariff collected for Pakistan, Kenya and Jamaica which allowed the comparison of the *de jure* and *de facto* tariff for each tariff item. One might, naively, think that the *ad valorem* tariff rate times import value might predict tariff revenue collected. In fact, the actual

ratio of revenue collected to import value was only weakly related to the official *ad valorem* tariff—even in the official data (the actual discrepancy due to smuggling, mis-declaration of category or value, etc. must be even larger). Of the tariff code items all of which had a 60 percent tariff in Pakistan, about a quarter had a *de facto* tariff of zero, about a quarter had a *de facto* tariff rate of 60 percent and the median was 30 percent. Knowing an item had a legal tariff of 60 percent predicted a distribution of actual tariff payments distributed between zero and 60.

(Banerjee, Duflo, & Glennerster, 2008) examine a program to increase the attendance of nurses at clinics in the state of Rajasthan in India. At the end of 18 months of the program implementation, the attendance of both "treatment" and "control" group nurses was almost identical—they were both physically present during the designated "clinic days" during the proscribed hours about 1/3 of the time. Not absent a third of the time but *present* only a third of the time. The gap between the *official* rules that required attendance and the *actual* practice was massive.

A pioneering study (by Stone, Levy and Paredes, 1996) compared the processes for obtaining export permits in Chile and Brazil. An initial comparison of the legal procedures would suggest that it is difficult and time consuming to get permits in Brazil since the law required many steps and following those steps sequentially as the law specified would take a long time, while in contrast it was easy and quick in Chile. However, an investigation of the actual practices of exporting firms in Brazil found that there were professional touts or facilitators and that the actual time in Brazil and Chile were almost identical, just that Brazilian firms had to pay a fee, which was not huge, to facilitators to "expedite" the process.

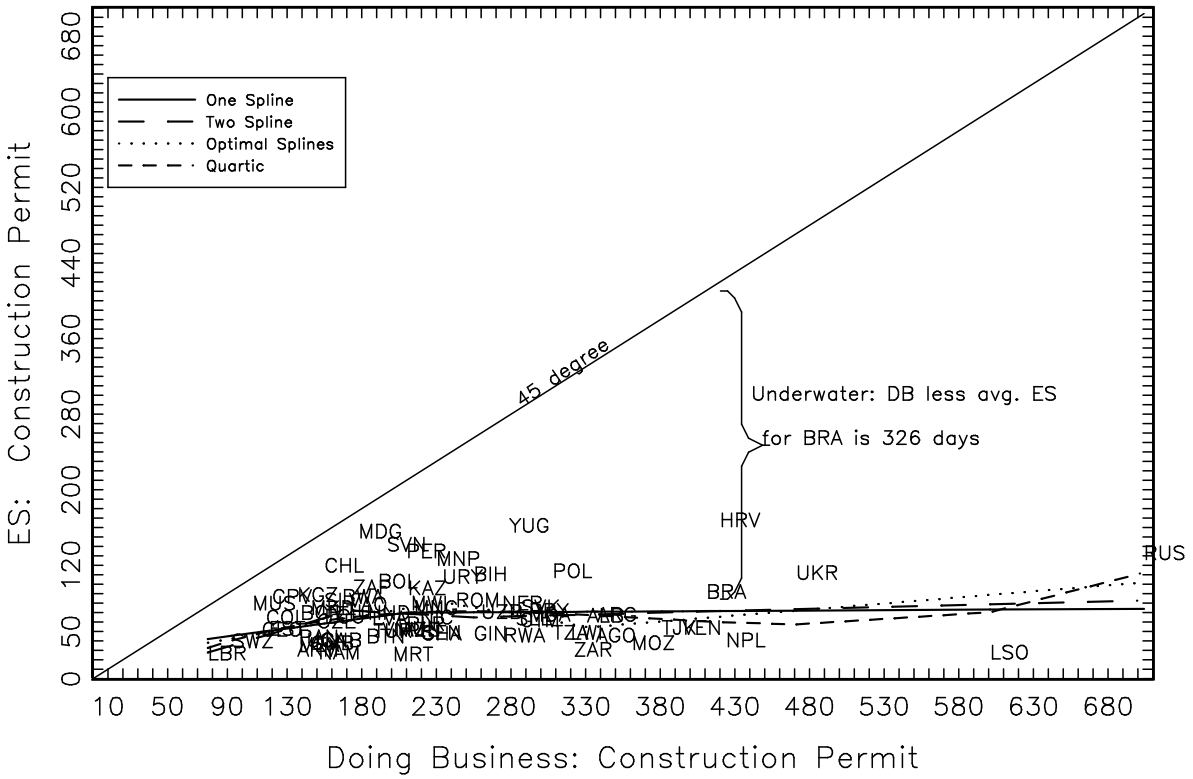
Of course these four specific empirical examples just reveal what every in-depth study of nearly any governmental organization in a developing country reveals—that the gap between what the official law and policies and actual practice is not a crack but a chasm.

The evidence relative to economic growth comes from recent papers comparing the 'Doing Business' rankings, which include measures of the *de jure* regulation such as days to get a construction permit, and the Enterprise Survey data in which firms are asked about their actual experiences in regulatory compliance ((Hallward-Driemeier & Pritchett, 2011). This allows comparison across three indicators: days to start a business/get an operating license, days to get a construction permit, and days to clear customs between the *de jure* and the *de facto.*

Figure 9 is the typical result showing the cross-national scatter plot comparing the 'Doing Business' reported figure for the days to get a construction permit for a typical construction like a warehouse *in practice if one were to follow the law* and the average number of days that firms in the Enterprise Survey samples reported that it took them to get a construction permit, with various non-linear functional form regressions estimated between the two. The 'Doing Business' survey is attempting to measure the time *in practice* that is, they are not measuring the *maximum* time the processes could take, they engage with people on how long processes typically take for firms that pursue legal compliance. If the Doing Business were actually a good representation of the types of construction being done and the actual process then the

observations should line up on the 45 degree line. The three obvious facts (also true of the other two indicators that can be compared between Doing Business and Enterprise Survey) is that (a) there is little or no correlation across countries between the Doing Business rankings and the Enterprise Survey results, (b) over most of the sample the reported compliance times are much, much, lower than the time that 'Doing Business' reports is typically needed for compliance. For instance, there is a gap of 326 days between Brazil's 'Doing Business' reported number of days to get a construction permit of 411 days and mean reported time by firms getting construction permits of 85 days.

Figure 9: Doing Business and Enterprise Survey: Construction Permit
(Actual and Predicted Values)



Source: Hallward-Driemeier and Pritchett 2011.

4b Variations in regulatory compliance across firms

For my friends, anything, for my enemies, the law.

(Attributed to Oscar Benevides, former President of Peru)

The use of firm level data allows the comparison of not only the *average* reported *de facto* and *de jure* but also the *variation* across firms in their reported times. Figure 10 shows for each country the Doing Business reported days but also the 10th and 90th percentiles of the firm

distribution. These figures reveal several features of the data. First, a substantial fraction of the firms (both 10th and 25th percentiles) report essentially no compliance times (and these were of firms that actually did new construction). This compliance time is almost completely invariant across the Doing Business measure of *de jure* time. The "predicted" value of compliance time is nearly identical whether the measured time *if one were to comply with the law* is 100 days or 400 or 600 days.

Figure 10a: DB versus ES 10th percentiles: Construction Permit

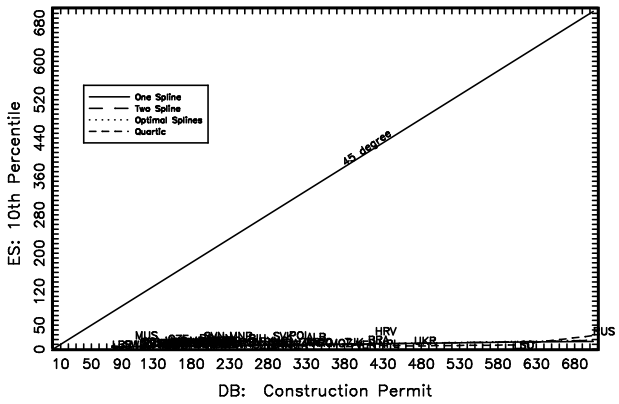


Figure 10b: DB versus ES (25th Percentile) (Construction Permit)

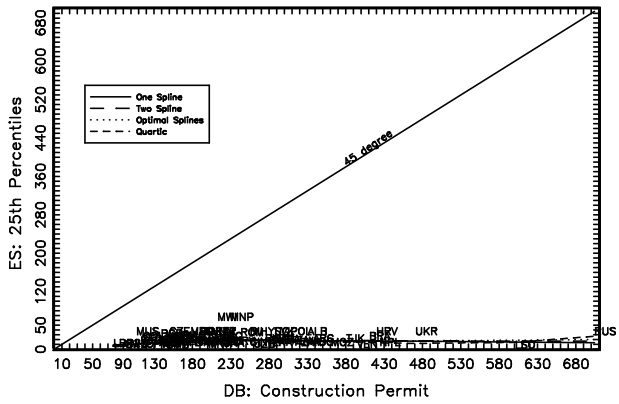


Figure 10c: DB versus ES 75th Percentiles (Construction Permit)

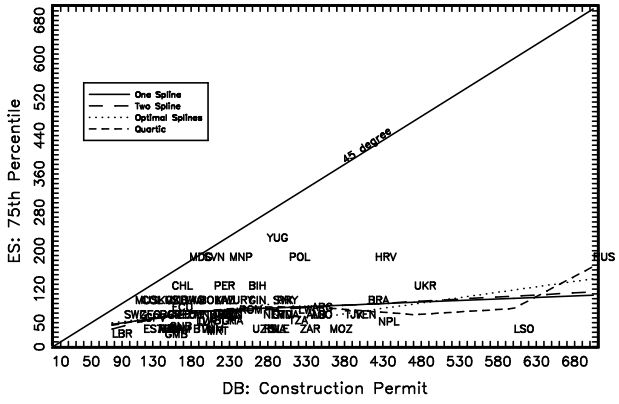
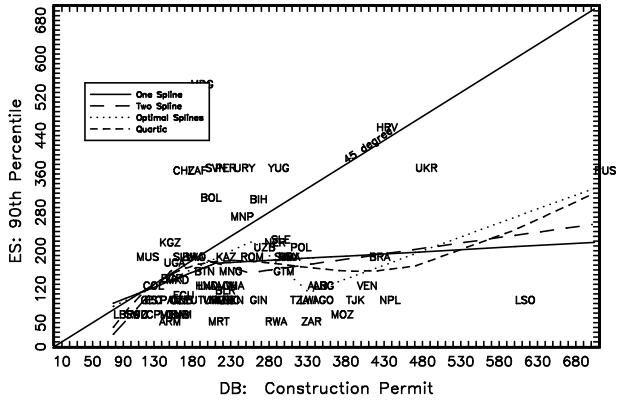


Figure 10d: DB versus ES (90th percentile): Construction Permit



Source: Adapted from Hallward-Driemeier and Pritchett 2010.

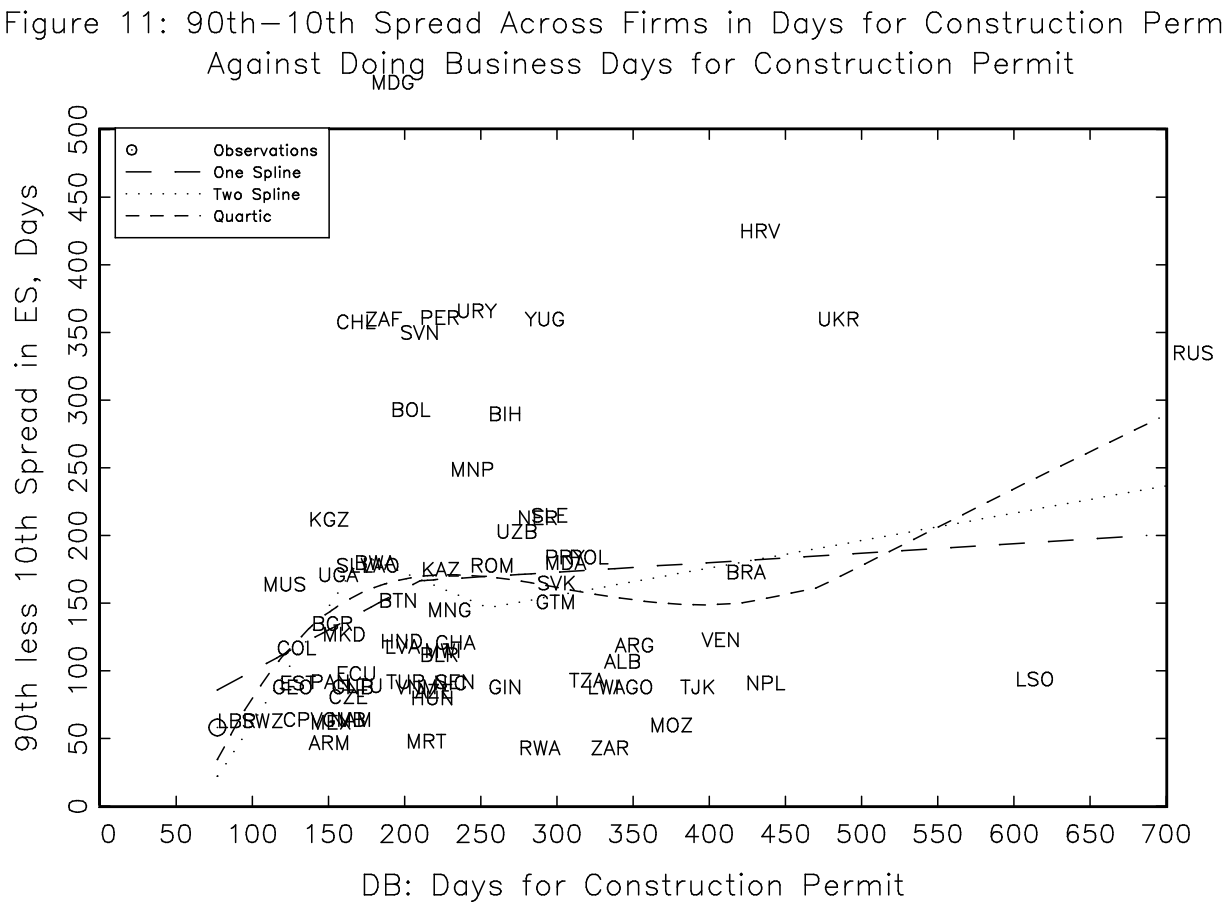
Table 10 shows the predicted values for each of three indicators. In each the difference in regression predicted the 25th percentile of the actual firms reports between the country with the *least* and *most* restrictive regulations is at most a few days—so for construction permits the difference between the least and most restrictive *de jure* is 524 days whereas the predicted difference of the predicted actual values for the 25th percentile firm is only 1.5 days (due to non-linearity, but even between the 25th and 75th percentile the difference is only 2.1 days for countries for whom the *de jure* differs by 130 days). While no one knows how these firms do this, the data is definitely consistent with a "for my friends, anything" interpretation.

Table 10: Predicted values of various percentiles of the distribution across firms from the ES at various levels of the country DB value

Ranking in the DB distribution across countries	Country	Actual DB value	Percentiles of the distribution across firms in the ES (predicted using two spline regression)			
			10th	25th	75th	90th
Imports						
Min	EST	4	1.1	1.6	4.4	10.5
25th	MEX	15	1.4	2.2	9.8	19.4
50th	NPL	23	1.6	2.8	12.0	23.2
75th	BDI	34	1.9	3.7	13.7	26.3
Max	UZB	84	3.7	6.3	19.6	37.9
Difference Max-Min		80	2.6	4.7	15.2	27.4
Construction Permits						
Min	LBR	77	4.5	7.0	38.7	29.1
25th	CHL	155	6.4	16.2	66.3	160.6
50th	PER	210	7.7	18.7	77.0	178.7
75th	GTM	286	8.7	18.3	81.0	166.5
Max	LSO	601	7.9	8.5	65.0	168.3
Difference Max-Min		524	3.4	1.4	26.3	139.2
Business/Operating License						
Min	GEO	3	3.9	8.6	31.4	54.3
25th	SVK	16	3.4	8.6	31.3	63.5
50th	NPL	31	2.6	6.6	29.1	65.2
75th	BOL	50	1.9	3.9	26.5	62.4
Max	GNB	183	4.9	11.3	38.5	79.4
Difference Max-Min		180	0.9	2.6	7.2	25.1

Source: Hallward-Driemeier and Pritchett 2011

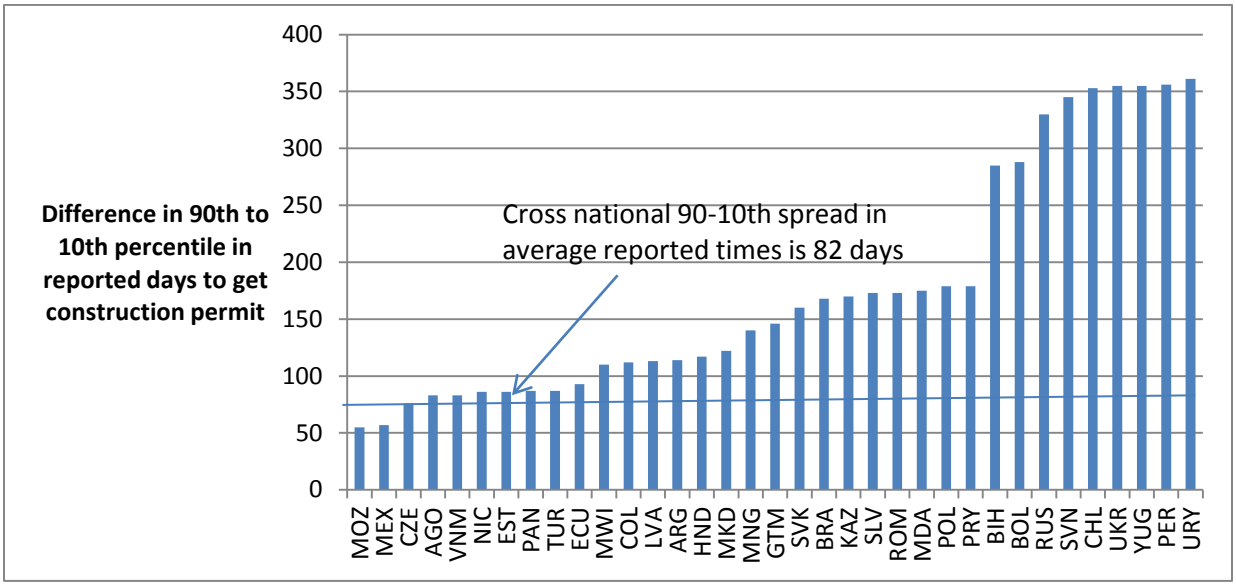
The other fact about the data evident from the graphs in Figure 10 is that only at the upper end the law matters, and then only over a limited range. That is, there is some weak evidence that the predicted value for the firms that report long compliance times goes up as the official times goes up, but only up to a point, and then tapers off. This is consistent with an interpretation of "for my enemies, the law"—that is, increasing the restrictiveness of the official regulation does cause the 90th percentile firms to increase their reported compliance times. This means that as the official laws/*de jure* regulation gets tougher the *spread across firms in the same country* gets larger.



Source: Hallward-Driemeier and Pritchett 2011.

This means that while the advent of the 'Doing Business' and other ratings of countries has put a lot of attention on differences across countries in the "ease of doing business" or the "investment climate" the variation *within* countries across firms in reported compliance times is larger than *across* countries in average actual times. In most countries in the world the time it will take for regulatory compliance it matters more who you are—your firm specific outcome—rather than where you are.

Figure 12: Variance in time for compliance is higher *within* countries than across all countries in the world



Source: Adapted from Hallward-Driemeier and Pritchett 2011.

4c Deals versus Rules

The basic metaphor of "rules" gets any discussion of development and "institutions" off on the wrong foot. The rules of an actual game say which of the players may do what in situations. What *defines* the rules of a game is that they are *impersonal* and apply equally to everyone playing. The characteristics of a person outside of the game are irrelevant to their admissible actions inside the *game*. If the Queen of England plays chess all that matters is whether she plays black or white. That she *really is* a queen outside of the context of the game does not translate into what she can do with her chess queen.

While one can bend the definition of "rule" to mean anything—including completely personalized and discretionary decision making—we propose the term *"deal"* to differentiate from "*rule."*[13] A *deal* is a *specific* action between two (or more) entities in which there is actions that are not the result of the impersonal application of a rule but rather are the result of *characteristics* or *actions* of specific individuals which do not spill-over with any precedential value to any other future transaction between other individuals. That is, if I hire a tout to facilitate my driver's license application this is a *deal* because the outcome depends on states of the world that are specific to me. Or, if I pay a bribe to avoid customs duties on my imports while people who do not pay a bribe are charged the full rate, this is a *deal* as my *policy influence action* affected the outcome.

[13] That is, one could always say the gap is between the "official" rules of the game and "informal" rules of the game—but if the "informal" rules of the game are that "anything can happen" and the actors themselves are uncertain what is possible or what will happen and when actions are indexed by personal relationships then this stretches the metaphor of "rules of the game" to the breaking point.

Table 11 makes a basic distinction between "deals" and "rules" and whether or not the official rules are conducive to 'inclusive growth.'

Table 11: Deals and Rules, good and bad *de jure* policy		
	Official Laws/policies/regulatory climate for private sector growth	
	Good (conducive to inclusive growth)	Bad (Inhibits inclusive growth)
Impersonally Enforced (Rules)	Developed countries with good policies and strong institutions	Strong enough institutions to inhibit economic growth through enforcement
Selectively Enforced (Deals)	Deals and rules based behavior intermingle	Predominately deals based economies (of any of the various types in table 12)

Since only highly mature and well-off nations have been able to create and enforce good rules, the challenges of development almost universally play out in countries with deal-based enforcement. As it turns out, not all "deals" systems are created equal. Table 12 divides these environments along two dimensions: whether deals, once negotiated, are honored ("ordered" vs. "disordered"); and whether deals are widely available or limited to an elite ("open" vs. "closed").

Table 12: Typology of 'deals' environments		
	Open (deals depend on *actions* of agents (including influence activities) but not identities)	Closed (deals are available only to specific individuals/organizations—deals depend on identities)
Ordered (deals done stay done, predictable)	"Retail" corruption (e.g. driver's licenses in Delhi)	"Cronyism" (e.g. Indonesia under Suharto, Russia under Putin, China, Korea (1960s))
Disordered (unpredictable what deals are available, deals have uncertain time horizon)	"Informal" sector in many countries	"Fragile" states

Up to now there have been some parallels between our discussion of rules vs. deals and the political evolution described by North, Wallis, and Weingast (2009). In NWW, open-order societies correspond to our environments characterized by good, enforced rules. NWW's natural order societies contain all other variants described herein, but are primarily focused on the economic relations among the elite, since it is they who, by virtue of the rents they can create and enforce, may be able to solve the problem of violence. The most mature natural order environment in NWW corresponds to our closed, ordered deals: the elite have developed a system for themselves wherein the arrangements they make will be honored, and yet they are nonetheless not yet accessible to the wider population.

Whereas the primary cases under scrutiny in NWW—UK, France, and the United States—transitioned to open order societies under their own political development (albeit with a healthy exchange of intellectual ideas), all subsequent cases of development have occurred in the shadow of the success that the first open order societies created. Capitalism itself had rents of a sort, in that with a healthy global market the gains to specialization, trade, and being able to enforce property rights became very large. Moreover, since most late developers adopted, or had forced upon them, legal systems from early adopters, the range of natural order societies in the 20th century was much larger than those states described by NWW. More than anything, rules became ubiquitous, and they became part of the natural order to be exploited and avoided by the elite. Rules were more than just a noisy backdrop of "deals" environments. They structured the deals that could be done, as well as determined their selective enforcement.

5. Using the 'deals' framework to articulate a GUT of growth

On page 46 I am sure you could use a summary of where we are and where we are heading.

Sections 1 and 2 showed that growth is episodic and that countries' growth experiences are characterized by *rapid* and *discrete* transitions across growth states—e.g. from boom to bust, from rapid growth to stagnation. Any unified theory of growth has to explain both long term growth dynamics (and hence current levels) and the medium to longer run dynamics of the movements of countries in and out of episodes of growth. We think a theory with some combination of probabilistic phase transitions plus within state dynamics is best suited to that.

Section 3 showed that many measures that are typical of the measures of the quality of "institutions" or "governance" such as POLITY measures or rankings of "institutions" (e.g. corruption, law and order, bureaucratic quality) have the features that:

a) They are strongly associated with the *level* of per capita income but:
b) The *variance* across countries in growth rates with the same measured POLITY or "institutions" is very high—the most rapid and most disastrous growth experiences are "autocracies" or have low quality "bureaucratic quality"
c) The *volatility* of countries growth is higher for countries with weak "institutions" such that the *changes* in growth are larger for countries at lower levels of measured quality of institutions.

d) The *measured* level of institutions do much less well at predicting *growth* than they do in predicting levels of income—so there are many countries with high growth and weak measured "institutions" (across a variety of indicators)
e) The dynamics of the measures of "institutions" (though not POLITY) evolve quite slowly and with high degrees of persistence, so while *growth* is episodic and lacks persistence the (measured) quality of "institutions" is non-episodic and highly persistent.

Section 4 documented that one feature of countries with weak "institutions" is that they lack organizational capability for policy implementation which means there is a large gap between *de jure* policy and *de facto* policy as implemented. Since the impacts on firm productivity and anticipated and realized profitability depend on the actions specific to their firm this means that the *de jure rules* may, or may not, have any relevance to the *deals* available to their firm. This means that the *deals* environment is central to how firms make decisions about investment, production, innovation.

This current section illustrates how the addition of the "deals versus rules" dimensions adds to the analytical possibilities.

5a Unpacking the dimensions of "deals" and their dynamics for growth and capability

What we need to add to a unified theory of growth is something that is capable of producing:

a) Very rapid shifts in economic growth causing discrete accelerations and decelerations of growth.

b) Feedback effects on a measure of "institutions" that might look like "administrative capability for policy implementation" that can be of either sign (e.g. cause improvement or deterioration) even when the effect on growth is positive.

c) A 'deals environment' disappears in impact with "development" such that shifts across growth states are no longer driven by this variable (that is, a "regime transition" as administrative capability crosses a threshold means the variable no longer matters).

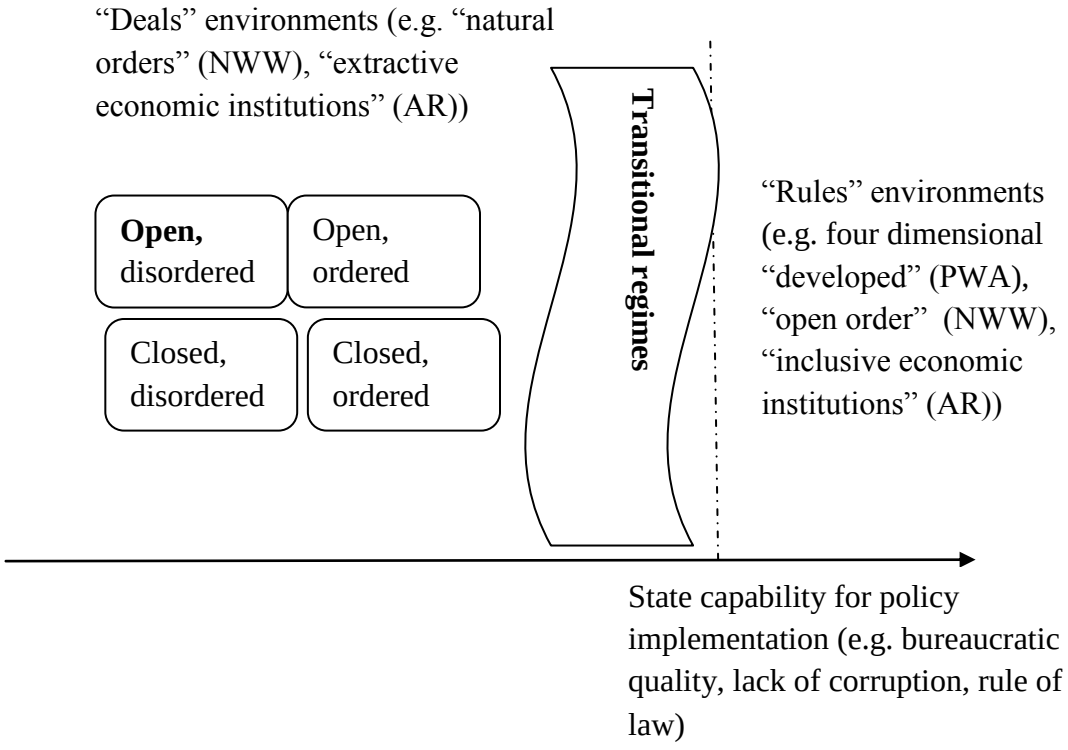
The difficulty with this theory is that there are at least three variables (growth, capability, and 'deals environment') and in each of those there is a time dimension that is crucial as the speed of the impact on changes in deals environment (e.g. from "closed" to "open") has (potentially) very different dynamics (not to mention a degree of probabilistic nature of growth state transitions.

The first point, as illustrated in Figure 13, is that we take it there is a "regime shift" from "deals" worlds to "rules" worlds that is associated with some degree of the strength of the capability for

policy implementation of the organizations of economic regulation (e.g. taxation, regulation) and of contractual enforcement (e.g. judiciary). One dimension of what we mean by "weak" institutions is that the outcomes of regulatory and legal decisions are not well predicted by the facts and the law. This means that the "investment climate" for each individual firm is distinct (they each have their own climate control) and this completely changes the dynamics of how firms influence policy implementation. In the deals world the incentives for firms to lobby for broad changes in *rules* are non-existent as firms would prefer to lobby for preferential deals. This means the feedback dynamics between economic success and the evolution of either the formal rules or the capability for policy implementation are different.

Within the "deals" environments of weak state capability for policy implementation (which is one dimension of "institutions") we have seen that there is massive variation across countries and volatility within countries of growth performance. We hypothesize that variation within the *types* of deals environments affect *both* the dynamics of *growth* (by affecting the probability of phase transitions) and *regimes* of capability (by affecting the feedback pressures from economic elites and political elites onto the organizations of the state).

Figure 13: The varieties of the "deals" experience



Source: Authors.

Mature development can only occur when a country is able to graduate to possessing enforced good rules. NWW postulated that for that to occur, three "doorstep" conditions would have to be met: rule of law for elites, perpetually lived organizations (including the state itself), and political control of the military. How these conditions were met varied substantially among the economies studied in NWW. For today's development theorists and practitioners, the doorstep conditions beg the question of whether and how they can be met in today's less developed countries, and whether recreating the path of France or the United States is the most effective strategy. Indeed, UK, France, and the United States had relatively similar economies: long on natural resources, technological innovation, industrial proclivity, and human capital. In our view, such countries are more predisposed to become open order "rules" societies than many of the countries inhabiting Paul Collier's "bottom billion."

In order for a country to decide to abide by its own rules, and then set rules that would generate inclusive economic growth, more than idealistic leaders are required. The elite sustaining the "deals" order must find it in their interest to choose good rules, and enforce them. We argue that some economies are better suited to this than others. For current countries' prognosis for real development, it is the global system combined with their current economic structure that will determine this proclivity. The political economy of the generation of fair, enforced rules—and therefore inclusive growth—is tied to the relationship of the domestic elite to international economic opportunities and the source of foreign exchange.

5b Transitions in the "disordered" vs. "ordered" dimension of deals.

In debating the impact of corruption on economic growth it has long been recognized that not all corruption inhibited economic growth. In fact, the first vintage literature argued that since the rules that were on the books in developing countries were so onerous that corruption was good for growth because it relaxed those constraints (e.g Leff 1964). (Shleifer & Vishny, 1993) made the basic distinction between "organized" corruption and "disorganized" corruption. With "organized" corruption one has to pay a bribe but one gets what one pays for with (relative) certainty. In contrast with "disorganized" corruption firms pay bribes but still have large uncertainty that the deal will stay done. This is similar to our distinction between "ordered" and "disordered" deals.

What are the dynamics of a shift from "disordered" to "ordered" deals?

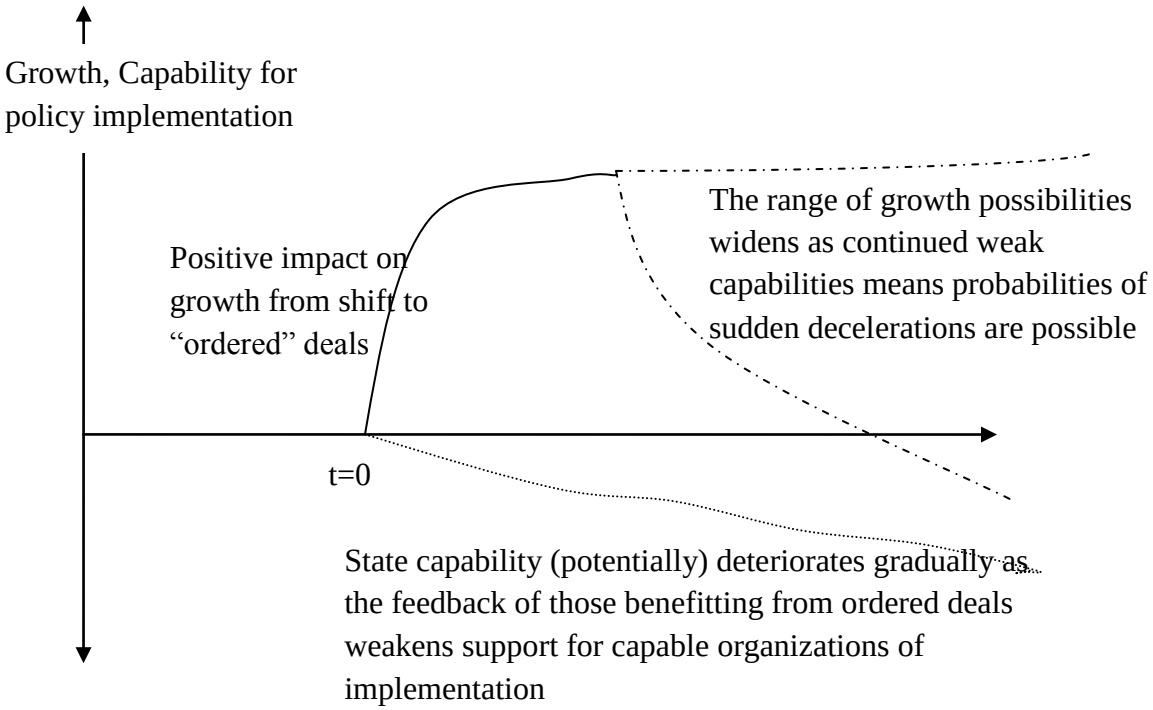
The *growth* dynamics can be very positive and very fast. Think of this as a massive reduction in the discount rate one needs to make on investments or as a massive reduction in firm specific uncertainty—the investment/innovation response could be very large and very fast.

The *SCPI (State Capability for Policy Implementation)* dynamics on the other hand are likely negative. After all, what it means to have an *ordered* deal is that the likely of reversal is low. To have deals that essentially exempt firms from regulatory compliance that have long-term commitment and hence create certainty about *future* commitments means that there must be a low probability that the deal will be reneged on in the future—in spite of the fact the deal was not

rule compliant. This means that strengthening of the state capability for policy implementation (e.g. better tax collection, enforcement of property regulations, reducing ability of firms to avoid labor regulation, not giving sweetheart deals on allocation of contracts or access to public property) by creating stronger, more autonomous bureaucracies is *against* the interests of those whose deals would be called into question by such strengthening.

If we call the people who differentially benefit from "deals" the "elites" (which in the case of economically and politically extractive institutions will necessarily be inter-penetrated as one cannot sustain successful economic activity at scale in a "deals" environment without some degree of political cover) then a shift from "disordered" to "ordered" deals (either open or closed to which we turn) creates a dynamics in which the "elite commitment" that follows their material interests works against *inclusive* growth, they manipulate the deals environment to protect against the development of an open playing field and resist the creation of organizations with the capability to neutrally enforce "rules" or actually implement policy.

Figure 14: Impact and trajectories (impulse response functions) of a shift from "disordered" to "ordered" deals



Source: Authors' imagination

5c Transitions from 'open' to 'closed' deals

A similar conjecture could be made about the transition from "open" to "closed" deals. The capture of a stable political/economic elite of segments of the economy that creates stable, predictable, favorable deals (and hence high profits) can actually accelerate economic growth, at least over the short to medium run. Those with preferential access to these deals make high profits and re-invest.

The very nature of *closed ordered* deals *precludes* the development of strong organizations that implement policy in a neutral way. That is, suppose a political group gave a sweetheart deal with exclusive rights to telecom provision to a connected businessman and that this deal created profits by eliminating competition. The profitability of the deal is *premised* on the notion that no truly independent regulator exists that might regulate prices. Hence even if such regulator exists on paper the elites who are benefiting from the deal will have a vested interest to make sure that the regulator never actually acquires the capability to regulate prices or force competition.

However, the difficulty is that "closed ordered" dynamics tend not to be stable, particularly without autocratic political institutions.

6 The market matrix in 'deals' environments: the example of Liberia

In order to understand elite interest in inclusive growth in "deals" environments, particularly disordered, closed deals, we must understand their material interests. This section will outline a simple approach to map out the economy in such an environment. As it turns out, firms have very different demands of the state depending where on the map they sit. Some firms favor policies that promote inclusive economic activity while others pursue policies that repress it. When well-intentioned private-sector development activities get overlaid on a private sector already serving elite interests (and disserving the economy at large), the result may be less than hoped.

6a The market matrix and elite interests

The economy of the most stagnant, or "fragile," states may not look like a typical developing-country economy. One, their exports are often heavy in natural resources. Some of this may be due to the potential role of natural resources in creating conflict and poor governance. However, there is also the arithmetic fact that the costs of doing business are typically high when institutional and infrastructural capacity is low, and the only firms that can profitably make products for export in this environment are in the resource sector. After all, resources are characterized by rents, and the concessions to allow firms to extract natural resources granted by governments in fragile states can make the terms sufficiently attractive to overcome the other costs (sometimes by a long shot).

Two, firms in fragile states that serve the domestic market often enjoy monopoly pricing power. This is in part driven by the small size of the market—fragile states are by definition poor, and therefore have a limited economy. It is also driven by the hold that business interests can have

on business policy: when the state is weak, it can be exploited by those who would seek to subvert the regulatory power of the state for their own benefit.

Yet few firms in rich countries with good institutions fit either of those categories. Even in Canada, a major natural resource producer, the share of natural resources in GDP is only 6.5 percent (Statistics Canada, May 2011, http://www40.statcan.gc.ca/l01/cst01/gdps04a-eng.htm). And very few industries catering to the domestic market in rich countries are characterized by low competition and monopoly rents.

In order to capture these features of fragile states—the preponderance of high-rent firms in industries that cater to both the export and domestic markets—we choose to map the economy by bisecting it along two dimensions so as to generate a four-cell matrix. The first division is proposed according to the buyers of the product: firms producing for exports and firms producing for the domestic market. The second division is proposed according to the structure of the industry: industries that are high-rent and industries that are competitive. In some industries, producers earn rent, or excess profits. The most basic example of a high-rent industry is selling natural resources when a low acquisition price was paid, but other examples common to fragile states include regulated monopolies and natural monopolies. Competitive industries, on the other hand, are driven by costs of production and characterized by an absence of excess profits.

Table 13 depicts this mapping of the economy of a fragile state. The four cells that emerge from this typology are labeled as follows: Rentiers are the high-rent firms that sell their products abroad; Magicians are the exporters in competitive industries; Powerbrokers are the high-rent firms that serve the domestic market; and Workhorses are the firms in competitive industries that serve the domestic market.

Table 13: The market matrix: alignments of elites into rentiers, magicians, powerbrokers, and workhorses

	High-rent	Competitive
Export-oriented	RENTIERS Natural resource exporters, agricultural concession exporters	MAGICIANS Manufacturing and service exporters, other agricultural exporters
Domestic market	POWERBROKERS Legislative monopolies or oligopolies, natural monopolies or oligopolies, government services	WORKHORSES Importers, traders, retailers, subsistence farmers, local manufacturers, producers of non-tradeables

The rentiers are the natural resource firms exporting to world commodity markets. Agricultural firms with concessions are included here since they get to use large tracts of land without going through formal property purchasing channels. In general, rentier firms sign agreements with the

state, which essentially give them the right to sell the resources belonging to the state and its people—in exchange for a set of fees and taxes. These are almost exclusively foreign firms due to the capital intensity of the sector. Their competitors are rentier firms in other jurisdictions around the globe.

The magicians are the exporters that operate in competitive industries. They are labeled magicians since they make a market out of nothing (as opposed to firms serving the domestic population that can rely on a captive market). In a typical developing country, competitive-industry exports might include garments, manufactured goods, agricultural products, tourism, and processed items. As with the rentiers, the magicians compete with other magicians in other jurisdictions.

The powerbrokers are the firms catering to the domestic sector that operate in high-rent industries. There are some natural resource firms in this category: those who supply wooden planks cut from the forest, for example, for domestic consumption. In theory these firms should be compensating the people for the use of the common resource, however in practice they often operate under the radar with very small fees that do not correctly “price” the resource at hand. For the most part, however, the powerbrokers are in regulated industries (sometimes restricted to a single state-owned enterprise) that limit competition. The key insight from economics about such monopolies or oligopolies is that they may wish to charge a price that far outweighs their costs. Governments know this and therefore regulate these markets more tightly. Since powerbrokers know that they will be regulated, they tend to form close relationships with government. Their competitors are substitute goods provided by the workhorses in a competitive market. In many developing countries, firms that would otherwise be in a competitive market may lobby to get their own monopoly, and in doing so earn excess profits.

The workhorses are those firms operating in competitive markets that serve the domestic economy. Among the workhorses in a fragile state are its subsistence farmers, livestock raisers, palm oil collectors, builders, restaurant owners, petty traders, hairdressers, village lenders, medical providers, and most of its importers. Much of the time, they provide the vast majority of goods and services in the market—particularly those goods and services consumed by ordinary citizens. Many of the workhorses operate in the informal sector, utilizing shadow markets and traditional dispute mechanisms in order to enforce contracts. The large formal-sector workhorses may be dominated by the ethnic-minority business owners whose internal sources of capital, networks, and contract enforcement offer them competitive advantages. The only real competitors that the workhorses have, besides one another, are imported goods and services.

This typology does not imply that rentiers and powerbrokers are bad, and that magicians and workhorses are good. Indeed, it may be the rentiers that provide the main engine of growth in the start-up phase. And it may be the powerbrokers that provide the essential services that give citizens access to trade, water, sanitation, electricity, and communication. But firms in each of these quadrants have different demands of the state, even (in fact, especially) of those states that do not enforce all of the rules.

Despite their being usually lumped together as the "private sector" (which *must* be developed) firms in "deals" environments may have very divergent interests. Understanding those divergent interests is important to understanding how the elites may or may not have an interest in inclusive growth.

Figure B describes the preferred policies of each category of firm in the market matrix. Nearly every group likes low taxes, and most like good infrastructure, but there are some key distinctions.

Table 14: Preferred policy and state capability of elites in the market matrix

	High-rent	Competitive
Export-oriented	RENTIERS *Policy:* Low tax regime, reduced red tape, non-intervention *State Capability:* good infrastructure (can be cocooned), order, low capability to regulate, negotiate, enforce	MAGICIANS *Policy:* Low taxes, reduced red tape, *State Capability:* Market-friendly intervention (e.g. productivity, de-bottlenecking), good infrastructure (can be cocooned, e.g. Special Economic Zones),
Domestic market	POWERBROKERS *Policy:* Barriers to entry, high tariffs, market distortions *State Capability:* Weak institutions, lack of transparency, no bureaucratic autonomy, order without rule of law	WORKHORSES *Policy:* Low taxes, minimal red tape, good infrastructure (has to be general infrastructure) *State Capability:* Need some governmental capability (e.g. power, roads), would prefer "open order" to reduce costs from "powerbrokers) but will settle for open ordered deals.

The low-tax regime that rentiers want results simply in higher profits, whereas the low taxes that magicians want may result in greater competitiveness and a higher market share abroad. Interventions to boost the competitiveness of a whole industry/sector are most appreciated by magicians, while rentiers do not need them, powerbrokers would either resist or appropriate them, and workhorses may be threatened by them if the interventions get targeted towards more connected firms. Everyone except the powerbrokers prefers reductions in red tape, while the powerbrokers benefit from the barriers to entry and the market distortions that the red tape may cause.

How do these preferences over policy relate to the diagram of motion of growth and "institutions" in Figures 13 and 14? Policy evolution in "deals" environments is essentially the

outcome of negotiations among the elite, with political power advantaged over economic and other kinds of power. Powerbrokers are the classic force for red tape, where the impetus may come from strong politicians or bureaucrats creating rents for themselves or their cronies, or from strong businesspeople buying off politicians and bureaucrats to entrench their market position. The problem is that they advocate for policies that are detrimental to firms in the other quadrants.

When powerbrokers are strong, and decisive, the economy trends towards bad rules that create the differential advantages of the powerbrokers through selective enforcement for the "friends."

When other economic actors are also strong, just not strong enough to set the rules, the situation trends towards not "good rules" but rather "poor enforcement", since strong enforcement would end up stifling the other sectors. Rentiers and workhorses end up not paying their taxes by an endless string of deals.

In this environment "magicians" are all but excluded from existing as the rent seeking behavior of powerbrokers in non-tradable industries creates both bad rules and often high cost infrastructure (e.g. by garnering rents from construction, monopolizing power or ports, etc.).

7. The product space, capabilities, and feedback loops

We do need one more piece of apparatus, which is the approach to the long-run productivity of economies as being driven by their "capabilities" to produce a diverse array of products in the "product space." This is the formulation created by Ricardo Hausmann together with various co-authors (including Dani Rodrik, Cesar Hidalgo, Bailey Klinger). The key elements of this formulation is that rather than reducing aggregate productivity and its evolution to a few, very aggregate factors (like "capital" and "technology" and "institutions") this approach emphasizes that there are many inputs into production and that more sophisticated economies rely on being able to produce a broader array of products (this is their version of "structural transformation") and that more sophisticated products require *more* (not just different) capabilities.

Therefore the process of sustained growth is the expansion of a country's capabilities—although economic growth can be driven over the medium run by linear expansions of output without structural transformation (say by a resource boom), but growth episodes are self-limiting.

The "capabilities" actually do require fine-grained, complex, even hyper-specific inputs into specific goods that can only be produced through collective action (e.g. infrastructure, policies, the institutional mechanisms of transactions (e.g. mortgages for real estate)). This means that simple "laissez faire" may prevent the downsides of discretionary intervention but also risks limited needed feedback loops that create the foundations for structural transformation.

The need for bringing the "product space" and "capabilities" directly into the picture is that the feedback loop between the existing structure of output and collective and/or public sector action to create greater capabilities is a key part of the overall dynamic.

7a Illustrating a future research agenda

The goal of a grand unified theory of inclusive growth is to be able to be useful in crafting actions (not "policy reform") that will lead not only to "growth" (closed order deals can do that) or even "poverty reducing growth" (as closed ordered growth with well targeted transfers can do that) but actual "inclusive growth" in the sense that it creates broad based opportunities for people to exercise choice.

We want to just indicate ways in which the three fold distinction between *growth*, driven by the actions of investors, *state capability,* the organizational capacity for policy formulation and implementation, and *deals environment* can *potentially be useful in future research* to explain both the medium, long, and very long growth of incomes (and its inclusiveness) by reframing the existing experiences into this framework.

7b Analytical narrative I: The natural resource curse in "institutions"

How does an economy get bogged down by powerbrokers pushing successfully for continued weak capability and tolerant (or even encouraging of) bad rules?

Our hypothesis is that it depends on the source of foreign exchange. Some sources of foreign exchange can be more easily appropriated by the political elite (these are called "point source" resources in Isham, Pritchett, Woolcock and Busby 2005). When a country's main source of foreign exchange is from the sale of point source natural resources (e.g. oil, copper) it can easily be appropriated by the political elite. Rentiers, in almost all less developed countries, work in "deals" environments. This means that they are usually happy to part with the minimal amount of taxes so long as they are left free to extract and sell the resources. The influx of foreign exchange from the sale of the natural resources abroad strengthens the non-tradeable sector vis-à-vis the tradeables through an appreciation in the exchange rate. This allows the powerbrokers to organize themselves to appropriate the second and third rounds of rent from the natural resource sales as they echo through the economy. A utility or concrete producer cannot overcharge impoverished consumers: they need some money in the economy, an initial source of activity, to be able to have a market.

When the natural resource sector is weak, there still may be other forms of unearned income that can lead to strong powerbrokers. Foreign aid and remittances both create domestic demand without a corresponding increase in business lobbying for good rules and good infrastructure.

IPWB (2005) show that countries that are concentrated in point source natural resources have much worse indicators of *governance* than do either manufacturing exporters or, more weakly, non-point source natural resource exporters (e.g. wheat, rice) (of course using all of the available, if less than fully convincing, attempts to parse out causation by instrumenting for resource exports with estimates of endowments).

This can therefore explain the whole cycle of natural resource exporters from boom to bust as not just the impact of terms of trade directly on volatility but also why (a) natural resource exporters to not develop effective institutions, (b) why it is difficult to translate point source natural resource wealth into structural transformation and higher capabilities outside the resource sectors, and (c) why, following Rodrik's "Where did all the growth go," the *interaction* of shocks and lack of institutional mechanisms to cope with shocks leads to growth declines.

However, when the main source of foreign exchange *has to be* from magicians exporting goods that face a competitive global market, magicians gain influence in setting the policy direction. If magicians are not carefully cultivated through fair business policies, low taxes, and decent infrastructure, they will simply be unable to compete with exporters in other countries. For the political elite, this would mean there would be no foreign exchange and the subsequent economic stimulus to try to get a piece of. What pernicious economic policies the powerbrokers would be able to achieve would be muted by the needs of the magicians for more pro-economic activity policies. The adoption of better rules would move the economy to the northeast in Figure 3.

7c Analytical narrative II: why "policy reform" has, at best, contingent effects on growth

Some lines of research suggest that differences in economic outcomes might be determined by who has "good" rules and who has "bad" rules—as the rules are the primary drivers of the "investment climate" which determines whether firms invest/innovate and create a more productive economy. This is a particularly attractive idea for pragmatic purposes as this means feasible short-run actions ("policy reform") can produce reasonably immediate results ("inclusive growth"). However, while few deny that "appropriate policy" can contribute to inclusive growth, as an overall agenda there are three major limitations to "policy" as central to the question of inclusive growth.

First, this usually just pushes the question one step further away, in that if "appropriate policies" lead to inclusive growth, the question is why a country would be in the position of not already having those policies. That is, what prevents the process of policy formulation in country X from already having arrived at those policies and what would lead country X to adopt those policies. There was a strand of research/advocacy that argued that "policy recommendations"—perhaps backed up by rewards/penalties from external agents—could induce countries to engage in policy reform, perhaps by strengthening the hand of "reform champions."

Second, discussions of "policy reform" often ignored completely the question of the organizational capability for implementation. As we discuss more fully below, in environments with weak institutions there is often a large gap between what is on paper and what actually happens. The legal, *de jure*, formal "rules of the game" are not in fact the rules of the game anyone is playing. In these environments it is not at all obvious changes in the formal "rules of the game" through "policy reform" will have any impact.

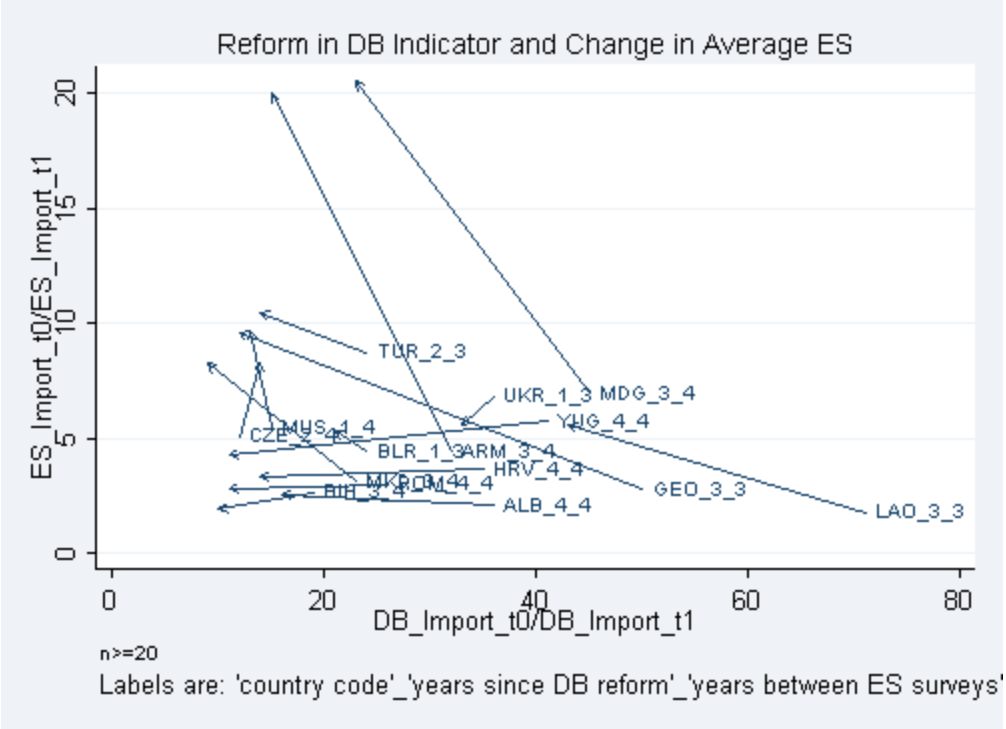
Third, the experience and evidence about the impact of "appropriate policies" on inclusive growth has not been particularly compelling. The apparent impacts of the adoption of "appropriate policies" has been so heterogeneous it is clear a fuller theory needs to add lots of contextual or interacting facts that determine whether or not policy change will lead to the desired impact.

Good rules for the private sector, which would seem to be necessary for modern firms in a modern economy to be successful, may be useless when elite interest is absent. In particular, when the private sector and the state have been interacting on a discretionary, rather than rules-based, interface, changing the rules alone may be a waste of time.

This can potentially explain why lots of countries with *de jure* policy reform did not have growth. This also potentially explains the "institutions rules" results that, conditioning on measures of "institutions" that "policies" don't matter. If one dimension of the existing measures of weak "institutions" is the lack of state capability for policy implementation then with weak institutions the *de jure* policy is a deals world and the *de facto* policy or changes in *de facto* policy may have little or no impact on the constraints firms actually face.

Figure 15 shows the *changes* in firms time for compliance (this time for operating licenses) with respect to *changes* in the Doing Business reported typical times for legal compliance. If legal changes were associated with actual changes of equal magnitude the observations should line up on a 45 degree line running southwest to northeast. As can be seen, there is either no change at all in reported compliance times or, if anything, an *increase* in reported compliance times.

Figure 15: Relationship between change in report time for clear customs in Enterprise Surveys and time to clear customs in Doing Business surveys (arrows indicator time direction)



Source: Hallward-Driemeier and Pritchett 2011 (figure 6e).

This has two immediate implications for understanding elite interests when the elite in a fragile state are over-represented as rentiers or powerbrokers.

One, "best-practice" private sector development to reduce taxes and red tape, to target infrastructure to meet the needs of production, and to undertake purposeful intervention to strengthen particular sectors of the economy may backfire if the main beneficiaries are rentiers. These policies would mainly result in higher profits to the firms and less revenue to the state, without stimulating any additional business. This would increase, or maintain, inequality, which would not meet the goal of inclusive growth.

Two, best-practice reforms, when powerbrokers control the economy, may simply not take. Those firms may have been in a symbiotic relationship with policymakers, and some of the red tape may have been designed with them in mind. Reducing red tape in one area may cause it to pop up in another or, enforcement patterns may not change.

The distribution of economic power is, of course, related to the distribution of elite influence over the policy process. In "closed ordered deals" environments the bulk of the economic activity may already be concentrated in firms for which the actual investment climate is much more

attractive than the legal climate. In this case the elite private sector actually is not a coalition partner for "market enhancing" growth reforms.

7d Analytical narrative III: rapid growth episodes with weak institutions, with interruptions dues to periodic political interruptions

Indonesia from 1967 to 1998 was ruled politically by a single autocratic/authoritarian figure, Suharto, in cooperation with an infrastructure of authoritarianism through military support and a party apparatus. During that period there was weak rule of law and low capability of the state. Certain groups (e.g. his family, the military, certain conglomerates headed by ethnic Chinese) received favorable treatment, awarded with official and unofficial monopolies over certain industries. At the same time, there was massive expansion of education, massive reduction in infant mortality and fertility, massive reduction in absolute poverty rates and very little measured consumption inequality (the Gini coefficient remained in the low range for developing countries). The end of the Suharto era was accompanied by a crisis (which is of course impossible to disentangle) but, unlike Korea, which had a similar crisis without a political transition, it took a long time for Indonesia to resume growth.

Table 15 reports on the analysis of the growth dynamics around large "democratizing" shifts. What is seen is that countries that had above average growth before a large democratizing transition had a very substantial reduction in their average growth rates—3.5 ppa. Part of this is "natural" regression to the mean of high growth countries, but only about half. So the effect of "democratizing" from high growth appears to be to lose about 1.76 ppa in growth rate over the next ten years (with both "before" and "after" staggered away from the transition itself to parse out the transition itself). This is consistent with (but far from compelling evidence for) a shift from "closed ordered" deals into more disordered deals associated with the upsetting of the pattern of elite control over policy implementation, causing a deceleration in growth rates as investors have more uncertainty and even perhaps lower profits.

Table 15: Difference in growth rates of countries with large democratic transitions versus countries with no large democratic transition (%)[a]

Growth in 10-year period ending three years before large democratic transition	Growth rate in countries with a large democratic transition [a]			Difference in before and after growth rates of countries with no transition (but same growth category—e.g. non-transition regression to the mean)	Difference in growth rates of countries with, versus countries without, a democratic transition (3 – 4)
	Before transition	After transition	Difference ((2) – (1))		
	(1)	(2)	(3)	(4)	(5)
High (>2% above average)	4.8	1.3	–3.5	–1.8	–1.76
Medium (0–2% above average)	1.3	2.0	0.7	0.3	0.43
Negative (<0%)	–2.2	1.5	3.8	4.6	–0.87

a A large democratic transition is an increase in Polity rating of more than 5.

Source: Authors' calculations.

7e Analytical narratives IV: paths to positive feedback, how did the few who did it do it?

One final narrative is how the countries which persisted in rapid growth did it. That is, while many countries have had a single growth episode there are really strikingly few countries that have had persistent rapid growth. For instance, the Spence Growth Commission (2008) identified only 13 countries with sustained rapid growth.

There are two prominent groups of countries that dominate any list of sustained rapid growth.

First are the "East Asian" countries which had rapid growth. The key question here is not so much "what" these countries did (e.g. maintained macro stability, had rapidly expanding exports) but *how,* as a matter of governance and state capability, they were able to do it. That is, there has been a long-standing debate whether the success of the East Asian countries was due to their reliance on the market (e.g. World Bank 1993) or represents the result of the intervention of the state (Wade 1990, Amsden 1989) but both of these must answer the question of how and

why this small set of countries were able to implement effectively the same types of policies that failed elsewhere (Evans 1995, Rodrik 2005).

Second, interestingly the next tier of rapid growth countries are those on the periphery of Europe. These countries seem to have benefited from a process of deep political integration within a larger economic union. This model of union as a way of pre-commitment to changed institutions perhaps holds deeper lessons.

Conclusion

This background paper is not meant as a new contribution to the literature presenting new results. Rather, its goal is to pose several questions and suggest some lines of attack in pursuing research to inform those questions in a way that potentially could produce actionable results.

The research goal would be to make progress on a unified theory of growth that could both:

a) Explain (better than current long-run growth theories) the onset of growth episodes.

b) Examine how the dynamics of growth interact with existing political and institutional configurations to produce feedback effects on policy and institutions such that some growth episodes end in bust or stagnation while others are continued.

We propose that part of this research agenda is to recognize that the feedback loops from economic growth on the quality of governmental institutions and state capability that be either positive or negative. Therefore of interest is both how changes can produce rapid growth accelerations even with more or less constant quality of institutions but the source of the initial growth can make that growth process either self-limiting or perpetuating.

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