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Author/s:

Lloyd, P;Lee, C

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A Review of the Recent Literature on the Institutional Economics Analysis of the Long-Run Performance of Nations

Peter Lloyd

University of Melbourne

Cassey Lee

University of Wollongong

Abstract

This paper reviews the recent (post-2000) literature which assesses the importance of institutions as a factor determining cross-country differences in growth rates or in the contemporary level of “prosperity”. It first sketches how institutional economics has evolved. It then examines critically the methods of analysis employed in the recent literature. The paper finds that this literature has made a major contribution to the analysis of the causes of economic growth but the relative importance of institutions as a determinant of long-run growth and prosperity is still a wide open question.

JEL Classification: O43 and B52

Key words: institutions, policies, long-run performance, instruments

A Review of the Recent Literature on the Institutional Economics Analysis of the Long-Run Performance of Nations

1. Introduction

What explains the economic prosperity of nations? This seemingly simple question has been asked since ancient times. Rulers in the major capitals across the ancient world sought the advices of sages on ways to strengthen their power and legitimacy through actions that would bring prosperity to their lands. At the core of many of the advices rendered were rules relating to how societies should be ordered. These may be loosely translated to mean “institutions”. For modern economies, the starting point is Adam Smith, whose great book *The Wealth of Nations* (1776) was seminal. In his lectures and writings Smith paid attention to the role of institutions through a theory of social development that linked the different

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level of subsistence (hunting, pasturage, farming and commerce) with distinct social and political structures (Skinner, 2008). Smith's theory clearly influenced the work of Marx which advanced a theory of capitalism driven by inherent conflicts. These early ideas, either directly or indirectly, influenced many variants of "institutional economics" broadly defined – some of which were directly at odds with each other. American institutionalism was especially influential.¹ The shift from classical economics (with its emphasis on the long-run) to neoclassical economics (short run) heralded a period of relative neglect of the role of institutions.

By the 1950s, questions relating to the prosperity of nations were mainly couched in terms of growth theories which emphasized the role of capital accumulation. Subsequent refinements sought to unpack the unexplained residual by incorporating the role of technological change and human capital.

This leads us to the curious story of the current interest in institutions and growth. Empirical quantitative analyses of the historic problem of explaining differences in the economic prosperity of nations has used new methods of analysis and came to new conclusions. Early works include Olson (1982) and Choi (1983) with a resurgence since the early 2000s, making this a mostly 21st century economics. These writers find that institutions are an important determinant of cross-country differences in prosperity. As Acemoglu, Johnson and Robinson, (2005, p. 402) expressed it, "institutions matter". In some cases, authors claim they are the main determinant. In their survey of the literature, Acemoglu, Johnson and Robinson (2005, p. 386) contrast the power of the explanation of three possible "fundamental" causes of long-run economic growth: institutions, geography and culture. They claim that differences in economic institutions are "the fundamental cause of differences in economic development." This argument is repeated in Acemoglu and Robinson (2012, chapter 2) where geography and culture are dismissed as "theories that don't work". Similarly, Rodrik, Subramaniam and Trebbi (2004) claim that "the quality of institutions trumps everything else" [which in this case is geography and trade integration]. Later, however, Rodrik (2006, p. 979) called this "institutions fundamentalism" and compares it to "market fundamentalism" as in the Washington Consensus view.

From the point of view of analysis, one of the major contributions of the recent literature on institutional determinants of national long-run macro-economic performance is the development of explicit models and the testing of the hypotheses generated. Outstanding examples are Acemoglu, Johnson and Robinson (2001), Easterly (2005), Rodrik, Subramaniam and Trebbi (2004) and Besley and Persson (2011). These authors also emphasised the need to establish true causation rather than spurious causation. A third development in post-North institutionalism is the attempt to endogenise some institutions, to explain the origins of economic institutions in terms of political institutions and mechanisms

¹ American institutionalism has also been labelled as "Old Institutional Economics". Its contributors include Thorstein Veblen, John Rogers Commons, Wesley Clair Mitchell and Clarence E. Ayers.

(for example, Acemoglu and Robinson (2001) and Acemoglu, Johnson and Robinson (2005 and 2012)).

There are a number of lengthy reviews of the recent literature on institutions and growth: for example, Acemoglu *et al* (2005), Shirley (2005), Ogilvie and Carus (2014) and Leite, Silva and Afonso (2014). We seek to add to these surveys by first, as background, sketching how institutional economics has evolved and secondly, by examining critically the methods of empirical analysis employed in the recent literature. This is followed by an examination of patterns of growth of countries in the world economy since 1950. Some features of the growth record pose additional difficulties for institutional explanations of cross-country differences in long-run performance. Throughout we focus on contributions which are seminal for the development of the ideas and methods of analysis or illustrative of different aspects of analysis.

2. The Mainstream Turn to Institutions

Institutions have, without question, become more important in the economics literature. The mainstreaming of the role of institutions can be seen in the number of published articles on institutional economics and in the awarding of four Nobel Prizes (Coase, North, Williamson, and Ostrom) for those work in the area. How did institutions become an important topic of study in economics amidst the generally institution-barren landscape of twentieth century neo-classical economics?

There are a number of potential sources for the “rediscovery” of institutions by mainstream economists. The term “New Institutional Economics” (NIE) has been used to denote this literature on the economics of institutions. A key source of influence for the NIE was Ronald Coase’s contributions to the theory of firm and externalities. In “The Nature of the Firm”, Coase (1937) highlighted the role of contracts and transaction costs in the vertical boundaries of the firm. In a later work entitled “The Problem of Social Cost” Coase (1960) examined the how the problem of externalities can be solved via bargaining without any government intervention provided the transaction costs are zero. The paper highlights the importance of defining and enforcing property rights² – an aspect which continues to dominate studies attempting to link institutions and economic growth.

Coase’s insights were later extended and deepened by Oliver Williamson who in the 1970s and 1980s focused on factors affecting transaction costs such as hold-up and asset specificity. Collectively, the contributions of Coase and Williamson focused on the role of transaction costs, property rights and incomplete contracts (Ménard and Shirley, 2012). In his later works, Williamson was keen to develop a broader theory framework for analysing institutions. Williamson (2000) proposed a framework comprising four levels of social

² The notion of “property rights” adopted by the institutional economics has recently come under criticism; see Cole and Grossman (2002), Hodgson (2015) and Arruñada (2016).

analysis with each level being characterized by the speed of change in various economic phenomena (norms, contracts, incentives). This framework is summarized in Table 1 below. An important feature of this framework is the interactions between the phenomena across different levels. Williamson has also pointed out that much of the work from the New Institutional Economics (NIE) relate to level 2 and level 3 in the framework. It is important to note here that one aspect of level 2 – polity – is linked to the literature on political economy and positive political science.

Table 1: Williamson’s Framework for Institutional Analysis

Level of Analysis	Phenomena	Speed of Change (Years)	Method of Analysis
1 - Embeddedness	Informal Institutions, Customs, Traditions, Norms, Religion	100 – 1,000	Social Theory
2 – Institutional Environment	Formal Rules of the Game: Polity, Judiciary, Constitutions, Law, Property Rights	10 – 100	Economics of Property Rights, Positive Political Theory
3 – Governance	Play of the Game: Private Ordering – aligning governance structures with transactions	1 -10	Transaction cost economics
4 - Resource Allocation and Employment	Prices and Quantities; incentive alignment	Continuous	Neo-Classical Economics

Source: Adapted from Williamson (2000)

In addition to the work of Coase and Williamson, the work of Douglass North has been central to the revival of economists’ interest in institutions. North’s contribution has been to elevate the analysis of institutions to a more macro level – linking institutions to economic growth and development. During the period of the 1960s and 1970s, North’s thinking evolved from a neo-classical emphasis on the role of technological change to organizational and institutional innovation (Ménard and Shirley, 2014). Subsequently, North (1990, 2005) focused on the determinants of institutions – why institutions emerge, prevail and change in societies. This has led to at least two important dimensions in the analysis of institutions, namely the role of politics and, perhaps even more fundamentally, informal constraints such as norms and belief systems that are shaped by cognitive factors. The former focus on politics and political institutions remained important in North’s more recent work. North *et al* (2009) put forward a macro-level framework to analyse the long-term change in human societies. A key feature of their approach is the role of the elite (dominant political coalition) which finds resonance in the works of Acemoglu and Robinson.

Recent Institutional Economics

A large body of literature on institutional economics this century has built on the works of Coase, Williamson and North. This literature is very diverse. Given the plethora of sources from which institutional economics have drawn, this is not surprising. Four major approaches can be discerned in this recent literature.

The first approach is represented by the collective works of Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert Vishny.³ This literature is characterized by its focus on legal institutions and their relationship to growth and development. A key finding of this literature is the importance of legal origins or traditions.

In addition to legal institutions, recent scholars have revisited the role of political institutions in influencing economic policies. This second approach has been labelled “New Political Economy” (NPE). Key contributors to the literature include Torsten Persson and Guido Tabellini (2000, 2003). A key finding of the literature is that electoral rules (proportional vs. majoritarian) and legislative regimes (presidential vs. parliamentary) have systematic effects on public policy outcomes such as government spending.

There has been a recent resurgence in the topic of culture as an important determinant of growth– which forms the third approach. Empirical studies of the relationship between culture and economic growth date back to the 1990’s (see the survey by Adkisson, 2014). More recent work includes that of Tabellini (2010), Gorodmichenko and Roland (2010, 2011a, 2011b, 2015), Spolaore and Wacziarg (2013) and Alesina and Giuliano (2015).⁴ The framework used by each these authors is different from that of the others. Tabellini argues that culture plays an important role as a “channel of historical influence within countries” (p.678). Spolaore and Wacziarg (2013) explore the role of the ancestry of different groups in one location (nation). They look at how human traits are transmitted across generations over the very long run. For Gorodmichenko and Roland, individualist culture can lead to higher levels of innovation (an important source of growth). In a more recent work, Gorodmichenko and Roland (2015) have extended their research to individualism and democratization. A key challenge of this literature has been how to define and measure culture. Tabellini focused on trust and respect for others, and confidence in the virtues of individualism whereas Gorodmichenko and Roland used measures of individualism. In the work of Spolaore and Wacziarg the two channels of transmission are biological and cultural, the latter is via behavioural or symbolic (using language, writing, art) transmission. Adkisson (2014) surveys the problems of quantifying culture. While some institutionalists regard culture or cultural variables a part of institutions, they are more commonly regarded as separate and, therefore, a rival for institutions as an explanator of growth patterns. Interactions between culture and institutions are bi-directional and, as in the analyses of growth and multiple factors considered below, raise the issue of causality. Alesina and Giuliano (2015) examine this issue.

³ Other occasional collaborators include Simeon Djankov, Andrei Shleifer and Edward Glaeser.

⁴ Another related literature on culture and institutions is the relationship between religion and economic growth. See Barro and McCleary (2003).

3. A fourth approach is the set of contributions by Acemoglu, Robinson and their co-authors. There are two strands of literature associated with these authors. The first is an empirical one which focuses on the relationship between ‘initial’ institutions established during colonial times⁵ and long-term economic performance (Acemoglu *et al*, 2001, 2005). Institutions that are extractive (rather than participatory) have detrimental long-term effects on economic growth. This can take place through their negative effects via property rights institutions (Acemoglu and Johnson, 2005). The second strand is more theoretical in nature. A key preoccupation of this strand has been the role of power in politics and how this affects economic growth (Acemoglu and Robinson, 2000, 2001, 2006). This takes the form of the conflict and balance of power between the elites and the poor masses (citizens) that explains dictatorship, oligarchy, democratization and democratic reversals (coups). Flachaire, García-Peñalosa and Konte (2014) support this view. They find that political institutions are one of the deep determinants of growth. They set the stage in which economic institutions and other variables affect growth. Acemoglu and Robinson and co-authors have followed this up by more recent empirical work linking democracy, income per capita and economic growth (Acemoglu *et al*, 2008; Acemoglu *et al.*, 2014). Many other subsequent empirical investigations have followed the method and instrumentation used by Acemoglu and Robinson and co-authors. **The Analysis of Recent Institutional Economics**

What are institutionalists trying to explain?

Recent institutionalists have chosen a variety of dependent variables for long-run national macroeconomic performance. Acemoglu, Johnson and Robinson (2001) and Besley and Persson (2011) both try to explain differences in real incomes (“prosperity” and “poverty”) across nations at the present time, à la Adam Smith. Similarly other recent books written for a more popular audience such as Morris (2010), Norris (2012) and Hannan (2013) are devoted to the cross-country simultaneous comparisons of levels of “prosperity” or “welfare”. Others examine the vulnerability of nations to crises and volatility (Rodrik, 1999) or cross-country differences in indices of “human development” like literacy and longevity or the UNDP Human Development Index (Bardhan, 2005). The literature is, however, dominated by the study of cross-country differences in level of prosperity/income

Some of the literature is concerned with comparing relative levels of prosperity at some time. In particular, some authors compare levels of prosperity of certain countries relative to that in the US: for example, Easterly (2005).

Comparisons of absolute or relative levels of prosperity are almost the same thing as comparisons of long-run rates of growth of real GDP per capita. Some new institutional economics studies have examined long-run rates of growth: for example, Rodriguez and Rodrik (2001), and Glaeser *et al* (2005).

⁵ This line of research is itself part of an older body of economic history that considers colonialism as the main cause of underdevelopment. Shirley (2005) calls this the “Colonial Heritage” view and the developments in the work of Acemoglu and Robinson and co-authors as the “Colonial Heritage Plus” view.

A little formality is useful. Let $P_i(T)$ be the level of Prosperity, however measured, at time T for country $i \in S$ where S is the sample set of countries. The distribution of these levels among the set of countries at any time is what we are seeking to explain. Now choose some initial starting point in past time, $t = 0$. For each country,

$$P_i(T) = P_i(0) \prod_t (1+r_{it}) = P_i(0) \prod_t (1+r_i) = P_i(0)(1+r_i)^T \quad (1)$$

where r_{it} is the actual annual rate of growth in year t and r_i is the rate of growth which if maintained at a constant rate from time $t=0$ to $t=T$ will reproduce the current level of prosperity in the country. If we compare the levels of current prosperity across the countries and chose some common starting point, then the ordering of countries by current level of prosperity depends on two variables, the initial level of prosperity in each country, $P_i(0)$, and its compound rate of growth over the interval $(T-0)$, r_i . When one goes back a century or more, the ordering by prosperity is essentially the ordering by long-term growth rates.

Similarly, for some country $i \neq \text{US}$ and the US, prosperity relative to the US can be compared with the same relativity at some date in the past. Taking some interval of time T , we have, from Equation (1),

$$\begin{aligned} \{P_i(T)/P_{\text{US}}(T)\} / \{P_i(0)/P_{\text{US}}(0)\} &= \{P_i(T)/P_i(0)\} / \{P_{\text{US}}(T)/P_{\text{US}}(0)\} \\ &= (1+r_i)^T / (1+r_{\text{US}})^T \quad (2) \\ &\geq 1 \text{ as } r_i \geq r_{\text{US}} \end{aligned}$$

The per capita income of a country converges to (diverges from) that of the US over a period of time if and only if it grows at a faster (slower) rate than the US.

We call all measures of absolute and relative prosperity or comparative rates of growth the long-run performance of nations for short. We focus on this as the dependent variable of the analysis.

Methods of analysis

Recent institutionalists have used a variety of methods to demonstrate that institutions are an important or, in some cases, the main determinant of cross-countries differences in long-run national macroeconomic performance.

The most common method used is historical narrative with a comparison of economies or groups of economies with different performances and a documentation of the origin and development of those institutions which purportedly matter. For example, this is the method used by more popular book authors such as Morris (2010), Norris (2012) and Hannan (2013) who take a broad and long-term view of the relative prosperity of nations. It is also the method used by Acemoglu and Robinson (2012) though their account in this book is derived

from the model and regressions developed at length in their earlier work, especially Acemoglu, Johnson and Robinson (2001).

These narratives are stimulating and revealing but they do not provide general proof of the importance of institutions relative to other factors. Case studies are *sui generis*, as Shirley (2004, p. 627) neatly put it. There is a danger too that the historical case studies may be chosen to fit the hypothesis, leaving out other case studies which do not fit as well.

Moreover, the interpretation of the history of institutions and economic growth requires detailed examination of the economic history of each case. Ogilvie and Carus (2014) have critically reviewed the interpretation of many of the cases used in historical narratives, including the Glorious Revolution, serfdom, guilds and many of other favourites of the institutionalists. They find that "...a specific institution that matters for economic growth will often not operate similarly across different societies and time periods. Private property rights, for instance, are embedded in broader institutional systems that differ greatly across societies, with the result that they will not affect growth identically everywhere." (Ogilvie and Carus, 2014, p. 468). Detail is important. For example, in examining the role of secure property rights, it is necessary to distinguish between rights of ownership, use and transfer and between generalized and particularized variants.

A refinement of the comparative approach is a detailed comparison of pairs of countries. Acemoglu, Johnson, and Robinson (2001 and 2005) and Acemoglu and Robinson (2012) make use of a number of what they call "natural experiments" involving a pair of neighbouring economies which share many geographic features but have different histories. They begin their book with a dramatic comparison of Nogales in Sonora, Mexico with the town of the same name in Arizona. They also use North and South Korea and East and West Germany as pairs. The examples are persuasive but, unfortunately, they are severely limited in number.

Beginning with Mauro (1995) and Hall and Jones (1999) and Acemoglu, Johnson and Robinson (2001), a new method of testing the view that institutions matter for long-run macroeconomic performances developed which is rooted in modern economic modelling and econometric hypothesis testing. It is based on the recognition that institutions may themselves be endogenously determined. To get around this problem, they use instrumental variables. For example, Acemoglu, Johnson and Robinson (2001) chose the variable "protection against expropriation risk" as a measure of current institutions. They find a statistical association between higher quality of institutions (lower risk of appropriation of property rights) on the one hand and higher income on the other. However, they rightly point out that this could be due to reverse causation – higher incomes leading to reduced risk of appropriation – or to omitted variable(s) which might explain both variables and lead to a spurious conclusion of causation. There are fundamental problems of causality in this area of analysis. They sought a source of exogenous variation in institutions in the past that could be used as an instrument for the current institutional variables in the countries in their sample. They chose the variable "settler mortality rate" in the early days of colonisation of the

modern economies. They posit that differences in this variable led to differences in early settlement experience which led to differences in settlement institutions which in turn led to differences in current institutions. Using the obtained relationship between current institutions (expropriation risk) and colonial institutions (settler mortality rates), their two-stage regression estimates find institutions to be a highly significant cause of contemporary cross-country differences in income per capita in their sample of countries.

These authors have begun a new form of “growth regression”. Other scholars have used multi-stage regressions and instrument variables in the same manner. For example, Rodrik, Subramaniam and Trebbi (2004) explore the role of institutions along with geography and trade variables. In addition to the instrument of settler mortality used by Acemoglu and Robinson, they use two other instruments, the fraction of the population speaking English and Western European languages as the first languages. Rodrik, Subramaniam and Trebbi (2004, p. 154) rightly note “if colonial experience were the key determinant of income levels, how would we account for the variation in incomes among countries that have never been colonized by Europeans.” Their alternative instrumentation enables them to expand the set of countries from 79 when using the Acemoglu-Robinson instrument to 137 countries. This instrument choice and the expanded country set confirm the “primacy” of institutions as the explanatory of growth differences among the countries. But, it should be noted that the model explains only about one half of the variation across countries in income levels

In their exploration of the relative roles of institutions and economic policies as determinants of long-run macro-economic performance, Easterly (2005) and Rodriguez and Rodrik (2001) also emphasise the issue of causality. These studies see the previous attribution of economic success to policy differences as spurious. It is the result chiefly of omitted variables, namely institutions, and the mis-specification of explanatory trade policy variables.

Rodrik (2005) developed a four-way classification of institutions: market creating, market regulating, market stabilising and market legitimising institutions. This classification has been used by Battacharyya (2009) and Das and Quirk (2016) to try to ascertain which institutions are more important in promoting growth. Both studies find that market creating and market stabilising institutions are more important in promoting growth.

Jellema and Roland (2011) look for clusters of institutional variables that have joint effect. They consider political, judicial and cultural variables and use principal components analysis. Few institutional variables are significant on their own. The robust result they find is that political institutions of a limited executive and checks and balances together with an anti-authoritarian democratic participatory culture are what matters for long-run growth in income.

Besley and Persson (chiefly 2011 but also earlier papers) also look for clusters of variables in the cross-country data. They draw their inspiration from Adam Smith:

“Little else is required to carry a state to the highest degree of opulence from the lowest barbarism, but peace, easy taxes, and a tolerable administration of justice, all the rest being

brought about by the natural course of things.” (Quoted in Besley and Persson, 2011, dated 1755 but no source given. In Smith, 1776, p. xliii, it is attributed by the editor to a lecture given by Adam Smith.)

Their analysis centres on three closely related concepts – the fiscal capacity of the state, the legal capacity of the state and political violence. The first capacity is “the necessary infrastructure – in terms of administration, monitoring and enforcement – to raise revenue from broad tax bases such as income and consumption, revenue that can be spent on income support or services to its citizens”. The second capacity is “the necessary infrastructure – in terms of courts, educated judges, and registers – to raise private incomes by providing regulation and legal services such as protection of private property rights or the enforcement of contracts.” This is a rendition of the standard appeal to the rule of law as a central institution. Political violence is internal rather than external, that is, civil war and repression. Its opposite is peaceful outcomes or peacefulness. They produce a political economy model of the determinants of each of the three variables. Fiscal capacity, legal capacity and peacefulness each promote development and prosperity and all are measured on the unit interval. They define a Pillars of Prosperity Index as the equal-weighted sum of state capacity (itself the equal weighted sum of legal and fiscal capacity), peaceful outcomes and per capita income. This is an odd measure in that the first three components are determinants of prosperity and the last is the measure of prosperity but they find high or low values of these components are clustered.

What are institutions?

The starting point of any review of these methods of analysis of recent institutional economics must be some comment on the meaning of “institutions”. This term is not as clear as it seems at first sight. Most individual contributions have given, either explicitly or implicitly, a list of the institutions which they regard as important. Almost all recent institutionalists centre their analysis of institutions on the concepts of the rule of law and property rights. Acemoglu and Robinson (2012) distinguish between economic institutions and political institutions in their book. They list many economic institutions but highlight property rights, the law, freedom to contract and exchange. Besley and Persson (2011) focus on more general notions of fiscal capacity, state/legal capacity and peace (defined as the absence of conflict rather than wars with other nations). Rodrik (1999), Acemoglu, Johnson and Robinson (2005), Bardhan (2005) and Ogilvie and Carus (2014, Lesson 8) emphasise institutions of coordination and conflict resolution. Some include cultural institutions and human rights. One could construct a very long list of institutions. The length of this list reflects the differences in the approaches noted in Section I.

Douglass North (1990, p. 1) began his treatise with the definition: “Institutions are the rules of the game in a society or, more formally, are the human devised constraints that shape human interaction.” He distinguishes between informal constraints – such as conventions and codes of behaviour - and formal constraints which include written laws and constitutions,

judicial rules and contracts. Many institutionalists have adopted the North definition.⁶ For example, Acemoglu and Robinson (2013, p. 75) define institutions, very sparsely, as “the rules influencing how the economy works”. Similarly, for the special problem of managing common property resources, Ostrom defines institutions as the working rules applying to the agents making decisions relating to a common property resource and the payoff to the individuals dependent on their actions (Ostrom, 1990, 2005).

North’s definition gives institutions a meaning that is different than that of its common English usage where an institution is a body or organisation with designated members or constituents. North (1990, p. 7) himself distinguishes between “institutions” and “organisations” though Hodgson (2006, p. 10) argues that rules unavoidably exist within organizations and hence organizations must be regarded as a special type of institution.

More recently, there have efforts to further clarify the definition of institutions. In the September 2015 issue of the *Journal of Institutional Economics* there was an important debate on the definition of institutions by philosophers as well as economists. A distinction is made between “institutions as rules” and “institutions as the equilibria of games”. However, the concept of institutions as games equilibria has yet to be applied to the field of institutions and the long-run economic performance of nations. Hodgson (2015) argues that the rules-based definition is appropriate for the analysis of economic behaviour.

A number of institutionalists have contrasted the role of institutions as a determinant of long-run economic performance with the role of policies such as tax policies, openness to international trade, overvalued exchange rates and macroeconomic policies (See especially Rodriguez and Rodrik (2001), Rodrik, Subramaniam and Trebbi (2004), Easterly (2005), Rodrik (2006), Rodriguez (2007), Acemoglu, Johnson, Robinson and Thaicharoen (2003), and Acemoglu and Robinson (2013, chapter 15)). Plainly these writers do not regard “policies” as institutions. Yet policies and policy parameters such as tax rates, tariffs and fixed exchange rates are part of the rules governing an economic system. Furthermore, North (1990, p. 1), in his definition of institutions, says that institutions “structure incentives in human exchange, whether political, social or economic.” Following North, subsequent institutionalists emphasise the incentives role of institutions.

Easterly (2005, p. 1033) bases the distinction between “institutions” and “policies” on the argument that institutions such as property rights, rule of law, legal traditions, trust between individuals, democratic accountability of governments and human rights are “deep-seated” in contrast to “policies” which can be changed by “stroke of the pen” reforms. This assertion should be regarded as a testable hypothesis rather than an unquestionable fact. Many policies are very hard to change politically as any economist who has worked on the reform of a tax system or the reform of national barriers to international trade will testify. In a similar way Besley and Persson (2011, p. 12) note that “one cornerstone of our framework is to distinguish between policymaking and institution building.” They note that the capacity of

⁶ Leite, Silva and Alfonso (2014, n.1) give some alternative but closely-related definitions of institutions.

the state is built up over time and current state capacity constrains the policies pursued by governments. Rodrik, Subramaniam and Trebbi (2004, p. 156) note, wisely, that “the distinction between institutions and policies is murky as these examples illustrate. The reforms that Japan, South Korea, and China undertook were policy innovations that eventually resulted in a fundamental change in the institution underpinning of their economies.” They then try to distinguish between policy and institutions by regarding the former as a flow variable and the latter as a stock variable: “We can view institutions as the cumulative outcome of past policy outcomes”. (Rodrik, Subramaniam and Trebbi, 2004, p.156). This restricts the role of policies to one of determining institutions. It is not a view of institution building which conforms to other attempts to endogenise institutions such as the Acemoglu and Robinson’s notion of the hierarchy of institutions.

The basic problem with this binary division is that institutions, when defined to exclude policies, and policies jointly determine incentives. To take just one example, taxes on incomes earned by persons (either individuals or corporations or other legal persons) interact with tax-related institutions such as the monitoring of tax avoidance and the enforcement of tax liabilities by courts to jointly determine the effective tax rates paid by persons. To determine incentives one must consider both “institutions” and “policies” together.

Measuring institutional variables

Measuring institutions is difficult without doubt.⁷ Many writers do not try.

Glaeser et al (2005) conclude that the variables used to measure institutions are not long-standing constraints on government behaviour. Shirley (2005, p. 627) criticises the use of aggregate institutional variables. Kurtz and Schrank (2007) find that measures of governance (the probity of public administration) are typically based on survey instruments which introduce perception and selection biases. This applies to the World Bank indicators of governance, which have been widely used in studies of institutions and growth.

Ogilvie and Carus (2014, p. 489) complain that “...current institutional labels used in the analysis of growth assume those institutions to be present or absent, with no gradations in between,” that is, they are binary variables. This applies, for example, to institutions that supposedly guarantee property rights or enforce contracts and those that do not. They regard the need to devise measures of institutions which provide variations in intensity as one of the challenges of future research.

However, one feature of recent institutional economics is the attempt to develop new institutional variables to be used as explanatory variables in empirical cross-country studies. Jellema and Roland (2011, Data Appendix) list a number of institutional variables and their specification, most of them relating to the political or justice systems. They comment (2011, p. 108) that

⁷ North (1990, p. 107) himself avers that “we cannot see, feel, touch or even measure institutions.”

“First of all, measurement issues loom large. Most cross-country analyses of the effects of institutions on economic performance use summary measures created by an ad hoc (and usually idiosyncratic) weighting of several institution or categories of institutions. These aggregates are often based on subjective evaluation, contain significant noise, are suspiciously volatile, and are likely to be biased or contaminated by perceptions of a country’s economic performance.”

When some variable is used to measure the rule of law or property rights, the choice is obviously difficult and may be subject to criticism. In their hugely influential work, Acemoglu, Johnson and Robinson (2001, 2005) measure property rights by a proxy variable, the “risk of expropriation”, which is a measure of the risk of expropriation for private foreign investors only, excluding domestic investors. Bardhan (2005) uses a composite index of the rule of law with several components taken from the World Bank’s Worldwide Governance Indicators.

Another example of measurement problems is the key instrumental variable, the settler mortality rate, used by Acemoglu, Johnson and Robinson (2001). They use the mortality rate of European-born soldiers, bishops and sailors in the settlements before 1850. This variable has been used by many other studies subsequently. It is a constructed composite of the type criticised by Jellema and Rolland, and Shirley. It has been comprehensively criticised by Albouy (2012). He concludes “this comment argues that there are several reasons to doubt the reliability and comparability of their European settler mortality rates and the conclusions that depend on them.” (p. 3060) In reply, Acemoglu, Johnson and Robinson (2012) claim that their estimates of this variable are robust and corroborated by other historical records and therefore reliable.

There is still a lot of noise in these variables but the quality of institutional indicators is improving.

Problems with using instrumental variables

Beginning with Mauro (1995) and Hall Jones (1999), many studies of institutions and economic performance have used instrumental variables in order to sort out issues of causality. Valid instrumentation requires that the instrument variable chosen for institutions does not influence the dependent variable (per capita income or whatever) by any other channel, that is, it is not correlated with the error term. We again use Acemoglu, Johnson and Robinson (2001) as their instrumentation has been widely copied “We hypothesize that settler mortality affected settlements,; settlements affected early institutions and early institutions persisted and formed the basis of current institutions” and “The validity of our approach- i.e., our exclusion restriction – is threatened if other factors correlated with estimates of settler mortality affect income per capita.” (Acemoglu, Johnson and Robinson, 2001, pp. 1373, 1372). Glaeser *et al* (2004) reason that “the Europeans who settled the New World may have brought with them not so much their institutions, but themselves, that is, their human capital.”

Glaeser *et al* (200\$, p, 274). Their ordinary least square regressions then show that human capital is a more basic source of the growth of GDP per capita over a 40-year period than institutions. Spolaore and Wacziarg (2013, section 5) examine critically the use of instrument variables in the study of institutions and growth. They take up the point raised by Glaeser *et al* as to what the settlers brought with them but they emphasise the culture inherited from settler ancestors. Their ordinary least square regressions then show that culture is an important source of growth.

Are institutions constant or constantly evolving?

North (1990, chapter 10) argued that institutions are generally “stable” over time, changing only in response to major changes in relative prices. Other post-North institutionalists also argue that institutions are generally “persistent” over time (Acemoglu, Johnson and Robinson 2001, p. 1376 and 2005, p. 392) or “deep-rooted” (Easterly (2005) or “by their very nature deeply embedded in society” (Rodrik, 2006, p. 979).

On the other hand, a substantial number of institutionalists have emphasised the adaptability of institutions. The political economist who shared the 2009 Nobel Prize in Economics with Oliver Williamson, Elinor Ostrom greatly influenced the analysis of institutions which govern common property resources such as fisheries, oilfields or grazing land. For this subset of institutions, she showed how institutions adapt to the special circumstances of each common property resource so that they could be managed by collective action of the private agents using the resource. (See especially, Ostrom (2005) and Ostrom, Gardner and Walker (1994) and references therein). Subsequently she has developed an institutional analysis and development framework (called IAD) for the analysis of institutional change. In this analysis institutions are viewed as rules in the manner of North but here they are devised by the parties. She views institutional change as an evolutionary process using trial and experimentation.

Harper (2014) had developed the elements of an evolutionary theory of property rights, this time for property rights or rules created and granted by the state to regulate innovation and entrepreneurship. Entrepreneurs bring about changes in intellectual property rights systems as markets and technologies change. In a broadly parallel way, writing an obituary article, Nicita (2014) has reinterpreted the seminal work of Coase (which has been subject to a large number of interpretations). He seeks a general theory of institutions based on the role of transactions costs in defining and bargaining over property rights. As transaction costs vary over time and place, he develops a theory of institutional “moving equilibrium”.

Change in institutions over the period of a study pose severe problems for analysing the role of institutions. At what time in the sample period do we examine the institutions and how do we measure institutional change? If institutions do change over time, the econometric procedure of instrumenting contemporary institutions by reference to an old historical variable, which has been used by many empirical studies of economic growth, does not hold (Bardhan, 2005, p. 511).

With the recognition of institution change over time, it is not surprising that the possibility of reverse causality has resurfaced, namely the possibility that economic growth (due to numerous factors) may induce institutional change. This reverse causality is of course an old idea and it was the principal reason why instrumental variables were introduced into the analysis. Having rejected the instrumentation used by Acemoglu, Johnson and Robinson, Glaeser et al (2004) find evidence that economic growth induces change in institutions. Chong and Calderón (2000) provide evidence that growth can affect institutional quality.

Perhaps there is a global mechanism of institutional catch-up going on.

Patterns of growth in the world economy

To pursue further the analysis of cross-country differences in the long-run economic performance of nations we look now at the actual record of countries in terms of growth rates rather than contemporaneous levels of prosperity. This shift has the virtue of focusing more on the factors that have affected the time path of individual economies.

From a long-term perspective, the pattern of annual rates of growth of countries actually observed in the world economy exhibits two features; first, annual growth rates are highly variable, and second, there has been convergence of income levels among some countries.

Variability is borne out by long-run growth statistics. In a much-quoted paper, Pritchett and Summers (2014) examine long-term growth patterns in the world economy since 1950. As the measure of output, they use the series for GDP in PPP terms from Penn World Tables Version 8.0, which has 167 countries in the database. They find that country growth rates are not persistent over time. Moreover, “Although one might have thought that most of long horizon differences were due to the existence of slow and fast growing countries (e.g. Argentina grows slow and Japan grows fast) – the opposite is true and nearly all growth variation is due to differences within countries over time.” (Pritchett and Summers, 2014, p. 5)

Second, there is convergence with a tendency for Developing Economies to exhibit faster growth rates than the Developed Economies. This was noted by the World Bank Commission on Growth and Development (World Bank, 2008). That is, despite within-country variability of growth rates in all countries, there are sufficient differences in the average rates of growth between some countries over long periods of time to produce convergence. There are two general exceptions to convergence of Developing Countries. First, convergence has not applied to the lowest-income group of countries, as noted by Collier (2007). Second, there is a failure of countries which have progressed from low-income to middle-income status to progress further to high-income status. This has become known as “the middle income trap”; see Eichengreen, Park and Shin (2013).

We explore these growth patterns by examining the record in groups of countries which are of particular interest. First, Figure 1 shows the convergence of the BRIC-3 countries, which are the more important emerging Developing Countries, and the Major Developed Economies. The BRIC-3 are China, India and Brazil but not Russia for which there are no statistics in these series for the period 1950 to 1989. The Major Developed Economies are the USA plus the EC-5 (the original EC-6 less Germany for which there are no statistics in the series over the period 1950 to 1969) plus the UK and Japan. For the period 1950 to 2010, we have charted the series of average real GDP per capita in PPP terms⁸ of the Major Developed Economies and the BRIC-3. This period is one of stability in terms of world governance as the major Bretton Woods multilateral institutions which have set the rules for international commerce have been constant, and in terms of the absence of major many-country wars. The income axis is in logarithms and, consequently, the slope represents the rate of growth of per capita income at any point.

As shown in Figure 3 the growth rate of the US economy has slumped since about 1990 and particularly since 2000. Similarly, the European per capita incomes have grown very slowly since about 2000 (“Eurosclerosis”). The growth rate in Japan slowed dramatically around 1990. Thus for the last 2½ decades the growth rates in the aggregate of the major Developed Economies have slowed. On the other hand, the growth rates have accelerated in the large Emerging Economies, the BRICs-3. Chinese growth accelerated soon after the introduction of the Open Door policy in 1979 and India since about 2000 with the Brazilian growth being much steadier. The average per capita real GDP of the BRICS-3 rose by more than 10 times over the period from 1952 to 2010. In contrast, the average per capita real GDP of the DC-9 rose by less than 4 times.

Another group of countries of particular interest are the East Asian Economies. Many of them have experienced rapid growth. From around 1970 the four Asian “tiger” Countries (Hong Kong, Singapore, Korea and Taiwan) experienced rapid growth. Then rapid growth appeared in many other countries in East Asia. The World Bank (1993) study of *The East Asian Miracle* identified eight fast-growing or “high-performing” economies over the period 1960 to 1985; these were Japan, the four Asian tigers, and Indonesia, Malaysia and Thailand. Rapid growth was identified as a sustained growth in real GNP per capita at more than 5 per cent per annum.

⁸ We have used data series from Penn World Tables Version 7.1 rather than Penn World Tables Version 8.1, which became available in April 2015, because the Version 7.1 reports series of the income levels of countries relative to those in the US. In any case, the 8.1 series extends the period by only one more year.

Some other countries in Asia, Central Asia and some in Latin America and a few in Africa have also experienced rapid growth. The annual rate of growth of rapidly-growing economies had itself tended to increase until the onset of the Global Financial Crisis.

Thus, convergence, where it has occurred, has been due both to a marked slow-down in the rates of growth of major Developed Countries and to a marked long-term acceleration in the rates of growth of middle-income Developing Countries. These changes in per capita income performance amount to a profound change in the world economy in the last 30 years.

Some implications of growth variability and convergence for the analysis of institutions

This pattern of variability in growth rates and convergence raises several major difficulties for the analysis provided by those who argue that institutions are the main determinant of cross-country differences in prosperity or growth rates.

First, the convergence observed in the world economy has changed the relativities of the “prosperity” ordering greatly in the last 3 or 4 decades. Many writers treat the income relativities as if they are stable. Easterly observes that “The correlation of per capita income in 1960 with per capita income in 1999 is 0.87. Most of the countries’ relative performance is explained by the point they had already reached by 1960.”(p. 1033).

Fortuitously, the Penn World Tables 7.1 produces series of the PPP Converted GDP Per Capita Relative to the United States (series y) from 1950 to 2010. These show big changes in the per capita income of some countries relative to the US, especially in Asia. The relative incomes of the 4 Asian NICs have risen greatly since the early 1970s. More recently, this change has affected the relative incomes of China and India, the two most populous economies in the world, relative to the United States. In 1960, the year chosen by Easterly, the China Series 1 y series was 2.1 per cent of that in the US (5.0 per cent for Series 2), in 2000 these had risen to 7.0 (7.8) and by 2010 to 17.5 (18.9). For India, the figure in 1960 was 4.7 per cent, that in 2000 was 4.9 per cent and that in 2010 was 8.6 per cent. Although less dramatic than the case of China, this is still a big change in relative incomes. Figure 2 shows the change in relative per capita income for 10 selected rapidly-growing Asian countries. For these countries, the correlation observed by Easterly does not fit.

It is notable that some of the studies attributing the main differences in per capita income to institutions include in their selection of countries few of the countries that have experienced large increases in per capita incomes relative to that of the US. For example, Acemoglu, Johnson and Robinson (2001) have 64 countries in their sample of countries which were colonized. They include only 5 of the 10 countries illustrated in Figure 2, omitting China, Korea, Taiwan, Thailand and Kazakhstan. For the poor countries with low incomes relative to those in the US and other rich countries, their country selection is dominated by African and Latin American countries that have not been among the growing number of fast-growing Developing Countries. Their sample also omits more than 20 contemporary countries that are

“transition” economies. This omission is notable as these states have undergone a fundamental change in institutions. See below.

How do we explain the performance of those Asian and non-Asian economies which have improved greatly relative to the US? Have institutions really persisted in these countries or have they been adapted to promote growth? The analysis of this question is severely handicapped by the absence of long-term time series of institutional variables that allow variations in the magnitude of the institutional variables. If it is not change in institutions, what other factor or factors explains these changes in relative performance?

Some of the explanation of changed relativities lies with the US economy as its growth rate has decelerated. Consider the US economy in the 20th century. Acemoglu and Robinson and others such as the writers who aim at a more popular audience laud the institutions of the US, its freedoms to choose to work, innovate, invest, etc. The US was a high performer in the prosperity stakes for most of the 20th century and this led it to be the richest (and largest) economy after the Second World War. But its growth rate has slumped since 2000. Yet, at first glance at least, the institutions of the US have remained remarkably constant throughout the 20th and 21st centuries. This is partly due to a constitution which embeds many freedoms and is difficult to change and partly, one might conjecture, to a high degree of policy conservatism in the US. Whatever the cause, the performance slump seems difficult to explain in terms of a level/growth theory that puts emphasis on institutions. On the other hand, institutions may not persist. Ferguson (2013, chapters 2 and 3) states “Evidence that the United States is suffering some kind of institutional loss of competitiveness can be found...” (p. 100). He identifies some changes in financial regulation and law enforcement. But these do not seem convincing to explain such a huge shift in the relative rate of growth.

Second in the list of difficulties posed by the variability of growth rates and convergence, the US, Japanese and EC economies have all experienced marked growth slowdowns since the onset of the Global Financial Crisis. (See Figure 3.) This suggests there may be general factors at work in the world economy. But what are they?

Third, there are many examples of economies that enjoyed a period of rapid growth and then experienced a pronounced slowdown with little or no growth for a long period. These are mostly Developing economies. Pritchett and Summers (2014) find that “Regression to the mean is that single most robust and empirical relevant fact about cross-national growth rates”. Episodes of rapid growth tend to be of short duration and end in deceleration back towards the world average growth rate. What explains discontinued rapid growth? Eichengreen, Park and Shin (2013) document slowdowns of two percentage points or more. There were 12 countries which exhibited such slowdowns between the decades of the 1990s and the 2000s. Non-persistence of growth rates makes explanation of cross-country differences much more difficult, whether in terms of institutions or other variables. For the period from 1960 to 1990, Rodrik (1999) offers an institutionalist explanation for growth slowdowns in terms of

external shocks interacting with social conflict and weak institutions of conflict management. This explanation does not seem to apply to the more recent cases of Japan and Thailand, where the growth problems are home-grown. For the period since 1990, Eichengreen, Park and Shin (2013) emphasise the importance of moving up the technology ladder to avoid slowdowns.

Fourth, there is a large group of contemporary economies, the “transition” economies, which have very definitely experienced huge and fundamental changes in institutions. There are more than 20 of these: former republics of the USSR (including Russia), East European countries that were occupied by the Soviet Union, states formed from the break-up of Yugoslavia and other Communist states such as Albania, Vietnam, China and Cuba. They have, to varying degrees, moved from Communist institutions to market-based institutions. This group would seem to be a fertile ground for testing hypotheses on the importance of institutions. The results are very mixed. Some have experienced rapid growth and a few are in the set of fast-growing countries but some have not had rapid growth.

The case of the Chinese economy has received a lot of attention because of its exceptionally rapid growth and its consequential emergence as the world’s second largest economy. The Chinese economy has maintained a high growth rate without interruption since 1980. Thus, it is a notable exception to the general rule observed by Pritchett and Summers (2014) that period of super-rapid growth rate tend to be of short duration.⁹

The post-1979 Open Door take-off occurred in a period that experienced a quite fundamental switch of institutions and policies. In relation to institutions, private property rights replaced the communal ownership of land and other resources, in both agriculture and industry. Institutional changes allowed the establishment of markets. However, the rule of law continues to operate very differently than in Western countries; contracts are difficult to enforce, intellectual property rights are frequently violated and corruption is widespread. There have been huge changes in policies too as the Chinese economy has been opened up with respect to goods trade, mainly as a result of the Chinese accession to the WTO in 2000 and its adoption of the WTO’s trade rules. Opening also included the relaxation of restrictions on foreign direct investments, first by permitting tightly-controlled joint ventures and later other forms of foreign direct investment. Other policy changes have applied to state-owned enterprises and indeed all parts of the economy. Policies continue to change.

⁹ This makes the following observation by (Acemoglu and Robinson, 2013, p. 151) surprising:

“China under the rule of the Communist Party is another example of society experiencing growth under extractive institutions and is similarly unlikely to generate sustained growth unless it undergoes a fundamental political transformation towards inclusive political institutions.”

In their view, the very rapid growth over more than 35 years– from the introduction of the Open Door Policy in 1979 - is not long enough to be “sustained”. This is not a credible interpretation of the Chinese record. From 1980 to 2010, a period of 30 years, China achieved an average compound rate of growth of more than eight per cent. This means, its GDP per capita has increased by a factor of about 10. It took the US 80-100 years to achieve a 10-fold increase in real GDP per capita.

These have been documented by economists based in the West; see, for example, the recent books by Wao, Lu, Sachs and Wen (2012) and Garnaut, Fang and Song (2013), especially Perkins (2013).

There is an emerging literature on the Chinese economic performance written by home-based Chinese authors. Two notable recent books are Zhang (2012) and Lin (2014).¹⁰ These books have a very different flavour from the Western literature. They pay scant attention to institutional change; one exception is the recognition of the need for improved corporate governance of state-owned enterprises (Lin, 2014, chapters 9-11). Both argue that the Chinese phenomenon calls for a new growth model or paradigm. Lin emphasises the importance of technological change, mostly older vintage technologies imported from high-technology Developed Countries, over resource allocation. Because much of technological change is capital-embodied, the rate of capital accumulation is also important. He also emphasises Chinese-style entrepreneurship. Zhang emphasises the importance of culture and a strong pro-development (and often interventionist) state. These views may be the vanguard of a literature that challenges Western analyses of the Chinese growth performance.¹¹ In the big global picture, they challenge the views of both institutionalists and others as to the causes of economic growth.

While Russia has received much less attention than China in the literature on institutions and economic growth, Kirdina (2014 and references therein) has developed a model of institutions and economic development. It involves a balancing of basic “historically stable” institutions with the development of institutions appropriate to the contemporary economy. As a home-grown Russian model, it is another attempt to develop a theory of institutions for a rapidly changing transition economy with a distinct history. The development of natural resources has dominated recent Russian development but this factor is absent from the Kirdina model.

India has received surprisingly little attention in this debate. As a result of colonisation, it has many of the institutions which are commonly regarded as growth-promoting, particularly a rule of law and democratic institutions. Yet, its take-off into rapid growth occurred later and its growth rate in the last 40 years has been much lower than in China, which lacks these institutions. This has been partly attributed to state failures by Swamy (1979) and Parthasarathi (2011).

The leading role played by the state in promoting growth by altering institutions and adopting pro-growth policies is a common element in those countries whose per capita incomes have converged, especially in East Asia (Wade, 1990; Evans, 1995; Stiglitz and Yusuf, 2001 and Kohli, 2004). This is sometimes described as “state capitalism”. There is a subset of literature searching for an “Asian model” to explain the extraordinary success of this group of

¹⁰ Lin, now at Beijing University, has a University of Chicago PhD in Economics and is a former Chief Economist and Senior Vice-President of the World Bank whereas Zhang is a professor of international relations at Fudan University.

¹¹ For debates on the Beijing Consensus vs the Washington Consensus, see Huang (2010) and the three papers in the special issue of the *Journal of Contemporary China* (Volume 19, Issue 65, 2010).

countries. The model is based on a set of policies, with elements such as an active industrial policy, FDI promotion and the undervaluation of exchange rates, that are believed to promote growth. Das (2014) surveys this literature.

In general, the examination of the growth performance of individual countries highlights the role of country-specific institutions and policies.

The relative contribution of institutions to long-run economic performance

The key question arising from this survey of the recent literature on institutional economics analysis of the long-run performance of nations is whether “institutions” are a major factor, or even the main factor, explaining cross-country differences in performance. The focus here must be on the subset of post-2000 papers reviewed here which have used large datasets and run regressions, which include institutional variables, to ascertain the main explanators of these differences.

The growth regression literature, in both the earlier and the later phases, has shown that the explanators or “factors” which explain growth patterns are sensitive to what hypothesised variables are included, the particular measures used to represent these variables and other aspects of the specification of models. For the recent institutionalist “growth regression” literature, we have reported criticism of some of the measures used to represent institutions in these regressions and the specification of the models. Some of those whose work has been severely criticised by the new institutionalists have struck back with new regressions that purport to show the continued importance of non-institution variables; for example, Glaeser et al (2004), McCord and Sachs (2013), Spolaore and Wacziarg (20013) and Estevardeordal and Taylor (2013) have reasserted the importance of human capital, geography, culture and trade policy, respectively.

Doppelhofer, Miller and Sala-i-Martin (2000) examined the methodological problems of finding the variables which are “truly” related to growth when there are many models and potential regressors. Using a Bayesian approach, they find that one third of the 32 variables they tested have robust partial correlation with long-run growth. Their variables included measures of human capital and trade sector policy measures such as measures of openness, importance of primary exports and real exchange rate distortions, and some culture variables but only two variables, civil liberties and the degree of capitalism, which might be considered as institutional variables. The task is to sort out the relationships among factors which are robustly connected to growth in some way.

This task is particularly difficult if growth-promoting factors do not enter the equations in an independent additive way, as assumed in least squares regressions. Factor such as (growth-promoting) policies and (good) institutions and (growth-promoting) culture may be super-additive in that the joint introduction of two or more has more effect their introduction singly. For example, Alisina anad Guiliano (2015) explore the relationships between culture and institutions as growth factors. They find “Culture and institutions interact and evolve in a complementary way, with mutual feedback effects. Thus, the same institutions may function

differently in different cultures, but culture may evolve in different ways depending on the type of institutions.” (Alesina and Guiliano, 2015, p. 938) Similarly, institutions and policies may interact. In such situations, it is wrong to claim the causal superiority of one factor over another, as much of the literature has done.

4. Conclusion

Recent institutionalist analyses of the long-run performance of nations have made a major contribution to the analysis of the causes of economic growth. They have reminded us that institutions matter. They have constructed models of growth with institutional variables and shown the importance of pursuing causality and endogenised the institutional variables themselves. This empirical research has shown that institutions are a significant determinant of the long-run growth/prosperity performance of economies.

But criticisms of the way in which institutions have been modelled and measured have increased. We have identified a number of problems and issues with the institutionalists’ analyses. Institutions change over time and vary over space. The measurement of institutional variables, especially their changes over time, is often rudimentary. The distinction between institutions and policies is arbitrary and artificial in that it is their combined effects on incentives which matter for individual choices. The sample of countries in many empirical studies has been restricted.

We have also observed that the pattern of variability in annual growth rates raises several major difficulties for the analysis of long run performance and its attribution to institutions or other factors. It is not sufficient to look at cross- country differences at one point of time. Relative levels of income/prosperity have changed markedly for some countries in recent years. One must also explain why the growth rates have accelerated in some economies and decelerated in others and why in some economies they have accelerated then decelerated, when institutions are supposedly stable over time.

Claims by several leading institutionalists that institutions are the main determinant of cross-country differences in prosperity/growth have been severely challenged. The importance of institutions as a determinant of the long-run growth performance of nations relative to policy reforms and other factors such as geography and culture is still a wide open question.

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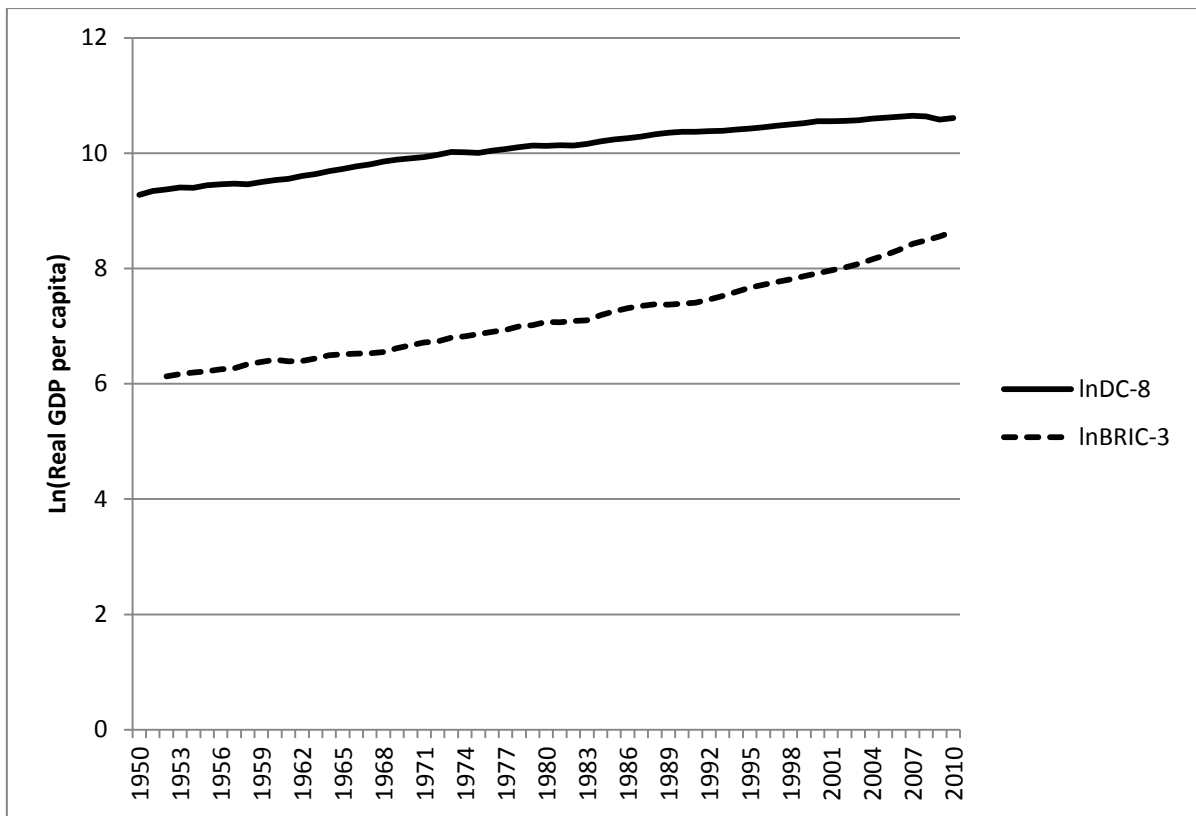
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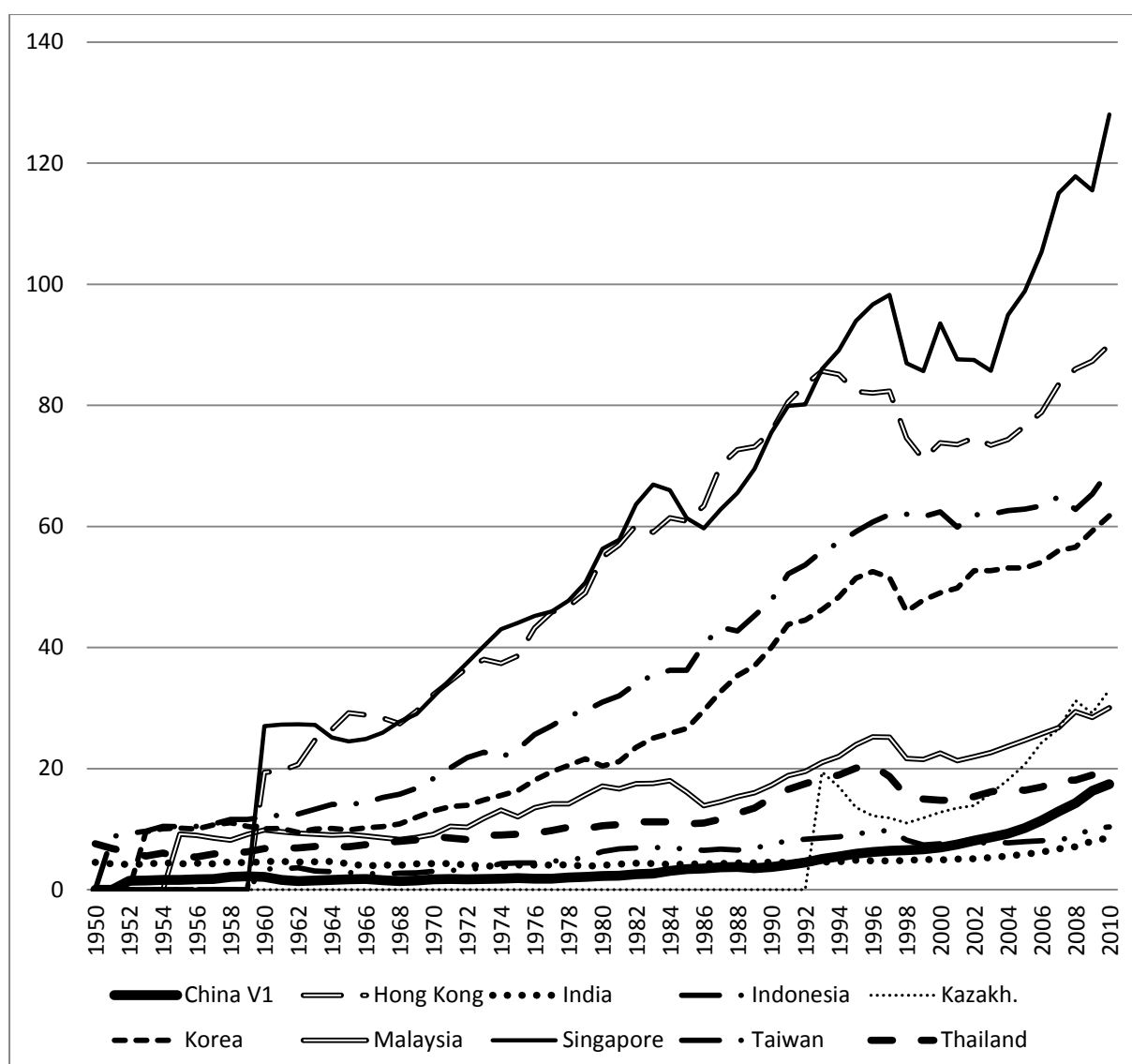
Figure 1. Convergence between BRIC-3 and Developed Economies-8



Source: Penn World Table

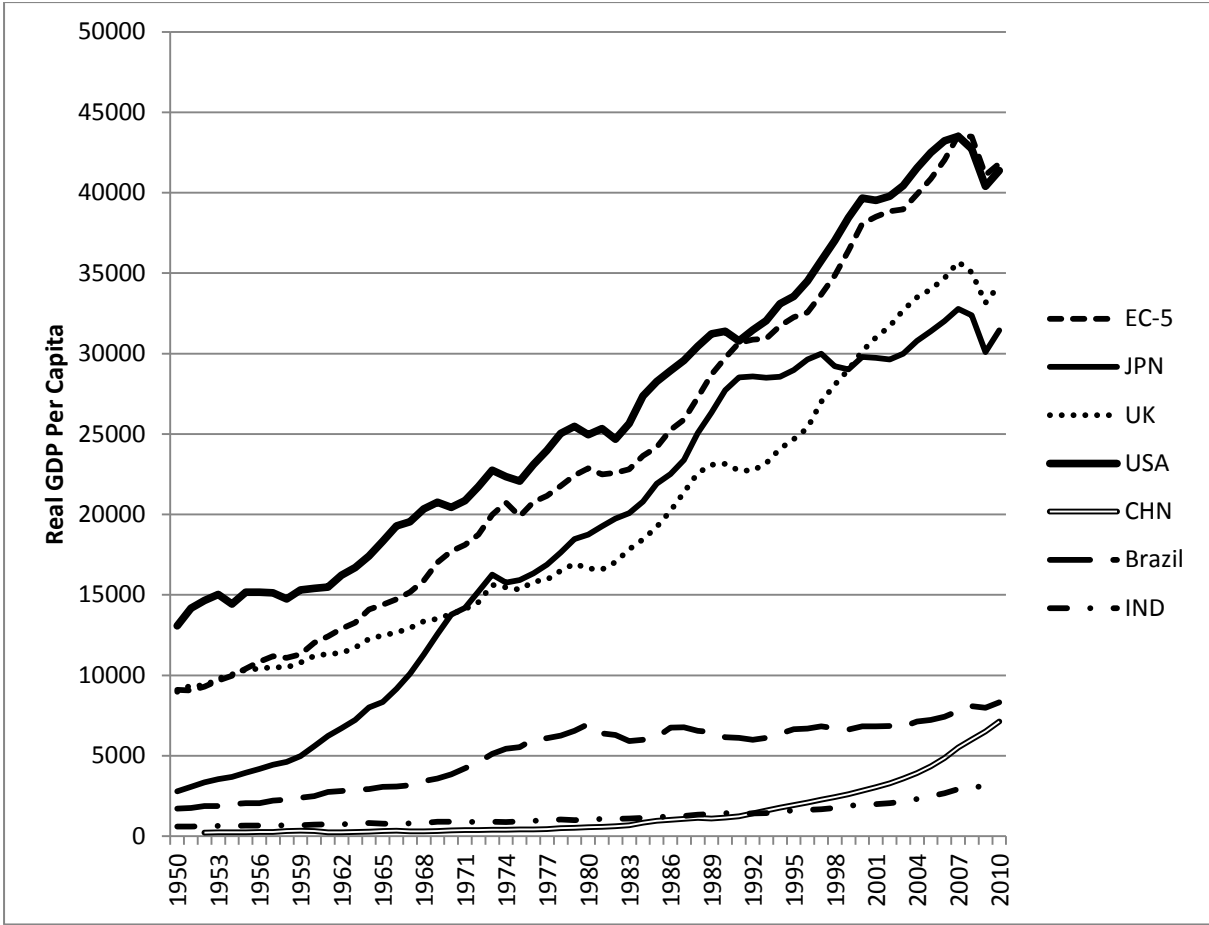
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Figure 2. Per Capita Incomes Relative to the US



Source: Penn World Table

Figure 3. Real GDP Per Capita



Source: Penn World Table