

## **Institutions for Economic Development and Growth**

Growth theory has identified a plethora of determinants for development; however, the more carefully economists study institutions, the more crucial they seem to become for the growth process. For decades economists focused on physical/human capital as well as technical change as sources of the wealth of nations. Crises and failed transition experiments in the 1990s brought to light that even these basic economic determinants of economic performance are incapable of providing desired living standards in the absence of functioning institutions to support and enable economic incentives.

What are the institutions that are crucial for economic performance in developing and developed countries alike? A review in the Handbook of Economic Growth (Acemoglu, Johnson and Robinson, 2004) points to a distinguished history of the subject, including works by John Locke, Adam Smith, John Stuart Mill. Nevertheless economics still lacks a robust framework that provides guidelines for why and how institutions influence the large observed differences in per capita incomes across countries.

The past 10 years have provided an ever increasing number of empirical studies on the influence of institutions. Trail blazers were researchers who based their empirical analyses of institutions on subjective indices of country risk assessment collected by private sector companies, who provide such services to the business community. These data were first used by Knack and Keefer (1995) and subsequently by Hall and Jones (1999) and Acemoglu, Johnson and Robinson (2001) to establish the influence of institutions on per capita income. Since then a hunt has begun to uncover ever better measures of institutions, as well as the mechanisms by which institutions influence growth.

The aim of this volume is to provide an overview of the current state of the literature regarding the impact of institutions on growth. The book opens with a chapter by Philippe Aghion which highlights some of the key arguments linking institutions and growth. Institutions, Aghion argues, have many facets, each impacting growth and development differently. His approach emphasizes three aspects. First convergence depends crucially on the quality of financial institutions. It is often argued that countries which are further from the technological frontier benefit from a catching-up process and hence grow faster than those closer to the frontier. Aghion maintains that because technological catch-up requires investment in imitation, the quality of financial institutions becomes an essential element in the catch-up process. As a result, underdeveloped financial markets can totally offset the advantages of technological backwardness and result in slower growth in backward countries than in those closer to the technological frontier. The second aspect examined by Aghion is how, contrary to common wisdom, product market competition may not be detrimental to growth. The basic idea is that a fierce competition will force firms to innovate if they want to remain ahead of other producers in the sector and make positive profits. Lastly, Aghion introduces the concept of “appropriate institutions”, by which he means that certain institutional set-ups will be suitable at some levels of development but not at others. For example, in the early stages of industrialisation, when capital accumulation is important,

institutions that favour long-term relationships between firms and banks are optimal. However, as an economy moves into the phase in which growth is driven by innovation, more flexible institutional arrangements that foster entrepreneurship and risk taking are preferable. As a result, the institutions that promoted growth at one stage are precisely those that retard it at another stage.

The new growth theories have emphasized the role of innovation and entrepreneurship on growth, and this is the focus of section II. We start with a chapter by Khan and Sokoloff, “Institutions and Technological Innovations in Early Economic Growth: Evidence from Great Inventors in the United States, 1790-1940”, on the impact of patent legislation on patenting activity in the US during the period 1790 to 1930. Their analysis emphasizes that a well functioning system of intellectual property rights turns patents into tradable assets. The authors highlight the contrast between the US patent system and that prevailing in Europe at the time. The major difference concerned the use of an examination system in the US. In Europe, the inventor would obtain a patent upon payment of a fee, but this patent could be challenged in court implying that property rights could not be considered to be established until the case had been assessed in court. In the US, a patent application was subject to examination, and only once rightful property rights over the innovation were established would the payment be made. This system established ownership in a way that could not be challenged. Khan and Sokoloff show that the use of the examination system had two important implications. First, it encouraged innovation by individuals of all education levels. Second, it resulted in extensive patent selling and licensing, with its double benefits in terms of ensuring that the goods were produced and that the innovator had access to funds permitting the continuation of innovation.

Much of the recent growth theory has taken a Schumpeterian perspective on innovation, with a large literature arguing that cross-country differences in growth rates can be largely explained by differences in entrepreneurial dynamism. If this is the case, it becomes essential to understand what factors determine individuals’ incentives to become entrepreneurs, and whether or not policy can affect them. Institutions are an obvious candidate. Do better institutions encourage individuals to undertake risk and promote entrepreneurship? Or are personal characteristics the main determinant of occupational choices? Simeon Djankov, Edward Miguel, Yingyi Qian, Gerard Roland, and Ekaterina Zhuravskaya present the first results of a major project that collects survey evidence to understand the determinants of entrepreneurship. The chapter concentrates on evidence from Russia where respondent characteristics can be compared across the individuals and regions. The results are striking. Institutions play a very minor role in determining the number of entrepreneurs, while social networks are shown to possess the greatest impact.

Section III turns to the role of institutional reform in the growth process, and discusses the three aspects mentioned by Aghion in the opening chapter. Chapter 4, “On the Efficacy of Reforms: Policy Tinkering, Institutional Change, and Entrepreneurship” by Murat Iyigin and Dani Rodrik, provides a natural link between sections II and III, focussing on the relationship between entrepreneurship and reform. Iyigin and Rodrik examine how policy affects entrepreneurship. Two alternatives are considered, “policy

tinkering” and institutional reform. The authors argue that growth is largely due to an increase in the number of available products, and that product diversification requires entrepreneurs who invest and discover new products. The central insight in their model is that low growth is due to an insufficient level of entrepreneurship. Policy tinkering can improve entrepreneurial rewards marginally; and deep institutional reforms can make substantial changes in the reward structure but at a cost to incumbent entrepreneurs. As a result, the efficacy of one or the other policy will depend on the current state of the economy in terms of entrepreneurship. Their empirical evidence supports this hypothesis: major reforms have worked in countries with a low level of entrepreneurial activity, and failed otherwise. The chapter hence captures one of the key messages developed in the opening chapter, namely, that different types of institutions are appropriate at certain stages of development but not at others.

There is general consensus that financial institutions might be among the most important in development, next to secure property rights. In “Financial Institutional Reform, Growth and Equality” Costas Azariadis and David De la Croix explore the consequences of liberalized credit markets for growth and inequality. The key insight in Chapter 5 is that premature liberalization in the least developed countries (low TFP or capital intensity) may redirect economic growth towards a poverty trap. This highlights the importance of understanding the exact contribution of institutions to growth. Reforms for the sake of reforms may actually harm growth if they are not sequenced correctly.

Differences in institutions are clearly a major source of income differences between developed and developing countries, as highlighted by chapters 4 and 5. Institutional reform can also be a source of growth in industrial economies. For example, Aghion argued in chapter 1 that the degree of product market competition can influence the amount of innovation taking place in industrial economies. Chapter 6 examines the role of institutional reforms in the OECD. The last two decades have witnessed substantial institutional and regulatory reforms in OECD countries. The differences across countries in these reforms have provided a suitable natural experiment to assess the macroeconomic impact of such reforms. Giuseppe Nicoletti and Stefano Scarpetta review the literature on the effect of these reforms on investment, productivity, and employment. The evidence suggests that strengthening private governance and increased competition in product and labour markets have had a major positive impact on the macroeconomic variables. Two important conclusions can be drawn from their analysis. First, product market competition and lower trade barriers are an essential requirement to promoting innovation and productivity growth. Second, such policies seem to be complementary with labour market reforms aimed at increasing employment.

Clearly the role, functioning, and quality of institutions is itself endogenous to level of development. The fourth section of the book examines the implications of this endogeneity in terms of education and the political process. In “The Role of Higher Education Institutions: Recruitment of Elites and Economic Growth, Elise Brezis and François Crouzet examine a specific mechanism by which institutions influence the fortunes of an economy. The authors analyze the evolution of the recruitment of elites over time and highlight how recruitment institutions subsequently impact the economy.

The key result is that meritocratic recruitment actually leads to class stratification and auto-recruitment. Auto-recruitment is then shown to lead to a stratification of the economy which may be the most dramatic impact of meritocratic institutions on economic growth.

In chapter 8, “Growth and Endogenous Political Institutions”, Cervellati, Fortunato and Sunde study the dynamics of political institutions and the implied differences in public policies. They highlight the circular nature of institutions: political institutions are thought to be influenced by economic development, and economic development in turn influences the political institutions. The chapter highlights that economic development increases the likelihood of transitions from oligarchy to democracy. Moreover, the authors show that democratic regimes tend to provide more efficient public policies, and more redistribution than oligarchic regimes.

In “The Road from Agriculture”, Thorvaldur Gylfason and Gylfi Zoega seek to explain economic backwardness not in terms of history or mentality but rather in terms of rational agents’ maximizing behavior. They show that observed technology adoption in agriculture does not need to coincide with the “frontier” technology at all stages of development. Instead Gylfason and Zoega show that countries may feature an “optimal technology gap”. The size of this gap is shown to depend on factors exogenous to most economic models and seldom subject to change, such as farm size (geography), land productivity, and the ability of farmers to digest and adopt new technologies.

The final two chapters turn to the empirical evidence. Chapter 10 presents a new database on institutional quality. The data presented by Pierre Berthelier, Alain Desdoigts, and Jacques Ould-Aoudia has been obtained through surveys sent to the French economic missions in 51 countries. As compared to other sources of institutional data, this survey procedure represents a number of advantages. First, its scope, as the authors had in mind Douglas North’s concept of “formal and informal” institutions and have hence collected rich information on the latter, an aspect that was largely absent from previous databases. Second, its comparability across countries, as the reference point of those providing the information (French diplomats) was common to all those filling the questionnaires. Two main results emerge from the analysis of the data. First, governance, security of transactions, regulation, are core measures of institutions that seem to capture the main institutional features of countries. Second, the authors show that a pattern of institutional profiles emerges in their data that allows for a classification of countries into groups with a common set of institutional characteristics.

In Chapter 11, Theo Eicher, García-Peñalosa and Utku Teksoz ask “How Do Institutions Lead Some Countries To Produce So Much More Output per Worker than Others?” The purpose is to examine the mechanisms by which institutions might affect economic growth. The chapter first combines the two most influential approaches to explaining differences in per capita income across countries, the growth accounting approach of Mankiw, Romer and Weil (1991) in which physical and human capital stock determine output, and the methodology of Hall and Jones (1999) in which institutional quality has a direct influence on GDP. The analysis hence seeks to understand the degree to which

institutions actually enhance the productivity of skilled labor and investment. The surprising result is that while physical capital and institutions are complements in development, human capital and institutions are shown to be substitutes. That is, in countries with weak institutions, human capital is critical to development; while in those with high levels of human capital institutional quality have a much weaker impact on output.

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