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Economic Institutions and Comparative Economic Development: A Post-Colonial Perspective

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Summary. — Existing literature suggests that either colonial settlement conditions or the identity of colonizer were influential in shaping the post-colonial institutional environment, which in turn has impacted long-run economic development. These two potential identification strategies have been treated as substitutes. We argue that the two factors should instead be treated as complementary and develop an alternative and unified IV approach that simultaneously accounts for both settlement conditions and colonizer identity to estimate the potential causal impact of a broad cluster of economic institutions on log real GDP per capita for a sample of former colonies. Using population density in 1500 as a proxy for settlement conditions, we find that the impact of settlement conditions on institutional development is much stronger among former British colonies than colonies of the other major European colonizers. Conditioning on several geographic factors and ethno-linguistic fractionalization, our baseline 2SLS estimates suggest that a standard deviation increase in economic institutions is associated with a three-fourth standard deviation increase in economic development. Our results are robust to a number of additional control variables, country subsample exclusions, and alternative measures of institutions, GDP, and colonizer classifications. We also find evidence that geography exerts both an indirect and direct effect on economic development.

Key words — colonization, comparative economic development, growth, geography, institutions

1. INTRODUCTION

The transition from the Malthusian per-capita income stagnation to an era of sustained growth, marked by the onset of the Industrial Revolution, induced a remarkable tenfold increase in world per-capita income during the past two centuries (Ashraf & Galor, 2011). This remarkable growth has not benefited all nations equally as significant disparities in the average living standards exist across countries. Individuals living in the top quartile of countries have real per capita incomes that are, on average, approximately thirty-five times those of individuals living in the bottom quartile. Despite substantial progress in our understanding of the causes behind the unparalleled contemporary growth and the inequality in the average living standards between nations, an overall consensus on the causes still proves elusive. This is evidenced by the emergence of three major theories of economic development in the literature.

There is the neoclassical growth theory and its extensions, which stress the accumulation of physical and human capital and technological changes as the ingredients for economic growth (Galor, 2011; Lucas, 1988; Romer, 1990; Solow, 1956). Next is the geographic determinism theory, which suggests that some regions of the world are developmentally handicapped because of naturally occurring geographic and/or climatic conditions (Diamond, 1997; Gallup, Sachs, & Mellinger, 1999; Landes, 1998). Finally, there is the institutional theory of development, which contends that institutional arrangements determine the incentive structure faced by agents in an economy and are thus directly responsible for economic performance (North, 1981, 1991; North & Thomas, 1973; Olson, 1996).

This study contributes to the institutional theory of comparative development. It is most closely related to two strands of the literature that utilize the European colonization period as a means to identify differences in the development of institutions across former colonies. The first emerges from the seminal contributions of Acemoglu, Johnson, and Robinson (2001) and Acemoglu and Johnson (2005), who argue that settlement conditions determined European settlement strategies in the colonies. Europeans were likely to settle in large numbers and invest in the replication of European institutions to protect private property and constrain the powers of government in colonies with favorable settlement conditions, marked by low mortality rates and/or sparse indigenous populations. In colonies with unfavorable settlement conditions, on the other hand, European colonizers would have sought to establish an extractive state to transfer resources from the colony back home. Because institutions are persistent, early institutional differences set the colonies on divergent development paths that largely explain huge disparities in per-capita income levels among the former colonies, reversing the previous relative levels of prosperity (Acemoglu, Johnson, & Robinson, 2002).

The second line of research follows from the legal origins literature, which argues that a country's legal traditions were largely imparted through the colonization process. According to this view, differences in legal origins explain differences in contemporary laws and regulations that influenced economic outcomes. In particular, countries with English common law origins tend to have better economic performance relative to those with French civil law origins (e.g., La Porta,

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Lopez-de-Silanes, & Shleifer, 2008). Klerman, Mahoney, Spamann, and Weinstein (2011) illustrate the imperfect correlation between legal origin and colonial history in suggesting that the identity of the colonizer is a more important determinant of modern development than legal origins because the former captures more of the diversity in colonial policies that matter for development.

The two views described above, settlement conditions and colonizer identity, both provide a theoretical mechanism for how European colonization impacted long-run economic development via the former's influence on institutional development, and have therefore been used to motivate an identification strategy to estimate the potentially causal impact of institutions on development. However, the literature has treated the two views as competing alternatives. The main contribution of this paper is to give credence to both views, treating them as complementary rather than competing alternatives. We do so by advancing a unifying instrumental variable (IV) approach that simultaneously accounts for the impact of both settlement conditions and heterogeneous home institutions exported by the major European colonizers as a means to better capture variation in the development of early institutions among the colonies than either of the views alone. We do so within a two-stage least squares (2SLS) framework, utilizing as IVs colonial settlement conditions, as measured by population density in 1500 (PD1500), and an interactive term between the identity of the colonizer, as measured by a dummy variable for former British colonies, and PD1500. This provides us with a set of plausibly exogenous instruments that, in our view, better account for historical evidence than previous literature. This approach allows us to estimate more accurately the potential causal impact that institutions exert on modern per-capita income levels. Section 2 provides additional details.

This research also contributes to an emerging strand of the comparative economic development literature that explores the growth effects of a cluster of economic institutions and policies, as measured by the Fraser Institute's Economic Freedom of the World (EFW) index.[1] Previous studies examining the impact of institutions on comparative economic development mainly rely on a unidimensional measure of institutions such as constraints on the executive, risk of expropriation, or the rule of law,[2] but Acemoglu and Johnson (2005) suggest that there are a broad cluster of institutions that are mutually reinforcing for the development process. The EFW index, further described in Section 3(b), is constructed to provide a comprehensive measure of the degree to which a nation's economic institutions and policies reflect the protection of private property, free trade, market allocation, and minimal policy-induced price distortions. Thus, compared to unidimensional measures, it encompasses a broader spectrum of the variation among countries in the institutional structure that shapes the economic environment for development.[3] For robustness, we also utilize several alternative measures of economic institutions such as the Heritage Foundation's index of economic freedom and the social infrastructure index of Hall and Jones (1999).

Further, this study also contributes to the genre of literature that investigates the role of geography in economic development. There has been considerable debate over the impact of geography on development. Some researchers have argued that geographic endowments only influence economic performance indirectly through their influence on institutional development, with the basic premise being that they create a natural environment for the establishment of different types of institutional arrangements (Bennett & Nikolaev, 2016; Easterly, 2007; Sokoloff & Engerman, 2000). Sachs (2001, 2003) contends, however, that the empirical studies purporting to show evidence in support of this view are not robust because they use a single measure of geography, latitude,[4] which is an imperfect proxy that does not fully account for the various channels through which geography may impact development (e.g., disease ecology, climate, geographic barriers to trade).[5] Our baseline estimates therefore are conditioned on multiple dimensions of geography, including malaria ecology, distance from major world markets, and access to coastline.

The current research adds to a rapidly expanding body of empirical work that suggests a crucial role for institutions in the development process.[6] Our baseline estimates suggest that a one-unit (slightly more than a standard deviation) increase in EFW is associated with about a three-fourth standard deviations increase in log real GDP per capita.[7] The results are robust to a number of additional control factors, including natural resources, human capital, religion, and regional fixed effects. They are also robust to various country subsample restrictions, and alternative measures of economic institutions, GDP, and colonizer classifications. We also find some evidence of both a direct and indirect effect of geography on development.

The remainder of the paper is organized as follows. Section 2 lays out the theoretical foundations for the identification strategy, followed by an overview of the data in Section 3. The main results are presented in Section 4, followed by a series of robustness checks in Section 5. Concluding remarks are offered in Section 6.

2. THEORETICAL FOUNDATIONS FOR IDENTIFICATION STRATEGY

This paper seeks to estimate the impact of economic institutions on per-capita income, but it is plausible that the two evolve simultaneously. Accordingly, an exogenous source of variation in institutions is needed to consistently estimate the potential causal impact of institutions on economic development. Scholars recognize the potential endogeneity of institutions and have identified European colonization as a natural experiment in history that provided an exogenous institutional shock in the colonies that has altered their development trajectory to the present day.

Hall and Jones (1999) recognized that a country's institutions are largely a function of the extent to which it was influenced by Western Europe and used latitude and the share of the population speaking a Western European language (i.e., English, French, German, Portuguese, and Spanish) as instruments for their multi-dimensional institutional index of social infrastructure, finding that institutions exert a positive causal impact on economic development. Acemoglu *et al.* (2001) criticize the instrumentation strategy of Hall and Jones for having weak theoretical foundations and argue that latitude, a measure of geography, may have a direct effect on economic performance.

Acemoglu *et al.* (2001) argued that the impact of European colonization on institutional development, which exerted a lasting impact on economic performance, depended on the colonization strategy of the colonizer. The colonization strategy in turn depended on the feasibility of permanent settlement, as determined by the settlement conditions in the colony. Two broad types of settlement strategies existed. Colonies in which settlers experienced high mortality rates and/or were densely populated by indigenous persons provided unfavorable settlement conditions. When settlement conditions were