Growth, History and Institutions*

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ABSTRACT: We illustrate the ongoing research line on Growth, History, and Institutions, which adds to

economic growth analysis a historical and an institutional dimension, both at the theoretical and the

empirical level. We present applications of this research strategy to the impact of colonization on growth, the

extension of the franchise and the welfare state, the evolution of educational systems, the relationship

between industrialization and democratization, and international migration. We propose a new standard,

starting from 1870, as the future reference period for theoretical and empirical research on growth. We

conclude with policy implications of the Growth, History, and Institutions research line.

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1. Introduction

The scope of the present contribution is to illustrate an ongoing research line which has developed in recent years around the combination of three main ingredients: growth theory, the theory of institutions, and their interrelationship with history. We shall refer to this body of the economic literature as to the Growth, History, and Institutions (GHI) research line. The revival of growth theory during the 1980s, building on Solow's (1956) seminal contribution, is where this research line most deeply finds its roots. Romer (1986) and Lucas (1988) transform the Solowian model into a more useful tool to comprehend the post-war persistence of differences in the growth performances across countries of the world. Endogenous technical progress and human capital are the key new concepts of this earlier stage. The two additional features that are added to this basis within the GHI research line are, first, a historical dimension and, second but no less important, an institutional one, the latter owing an intellectual debt to the theory of institutions based on North's (1981, 1990) earlier contributions.

The rest of the paper is organized as follows. Section 2 illustrates how each of the two new key ingredients – history and institutions - add to the field of economic growth, both at the theoretical and empirical level. Section 3 contains a summary of the motivations and the implications of the GHI research line, and presents a few applications to specific issues. Building on these applications, Section 4 suggests the emergence of a new standard, for future research on long-term economic growth, which extends the post-WW2 current benchmark as far back as the second half of the 19th century, as the new relevant time period for economic investigations both at the empirical and the theoretical level, and indicates directions along which future research on GHI may fruitfully evolve. Section 5 concludes with policy implications.

2. The interactions between growth and history, and growth and institutions

2.1. The historical dimension

Before the GHI research line on started to develop, the time perspective for the vast majority of the theoretical and empirical investigations on growth and development was that of the post-WW2 period. Data

availability constituted a crucial constraint that conditioned this perspective. Extended data collection projects starting from the 1950s, such as the Penn World Table (Heston et al., 2002) - yet a huge advance over the previous situation - not only limited the horizon of the empirical investigation but also the choice of the issues that could be posed, thus representing a boundary even for the questions that theoretical economists would try to address in their models. Economic historians formed a network of their own, which was often marginalized in economics departments and in graduate programs. More recently, joint effort between economists, economic historians and historians has allowed to broaden the time horizon for data availability, thus opening the way for empirical investigations over a longer time span. As a result, not only can the old questions be addressed within longer time series, but also new questions can be raised and answered. Among the recent contributions to the construction of data sets that are playing a crucial role in current growth theory, we find Mitchell (2003), Maddison (2001), and Williamson (1995). On the theoretical front, an influential stream of this literature has focused on the determinants of growth over the long run, with the goal of finding a unified explanation of very different phases of the history of human development, going back to the Malthusian era and beyond. This work is summarized in Galor (2004). However, the institutional dimension is not simultaneously addressed in this stream of contributions.

2.2. The institutional dimension

As data availability allows to broaden retrospectively the time horizon, the role of institutional factors appears more and more at least as important as that of purely economic ones. Within the field of economics, North (1981, 1990) has by now become the standard reference for the idea that institutions shape economic outcomes and are in turn affected by them. Outside of economics, similar concepts had already been expressed, for example, in the writings of Marx and Weber. The attention paid by economists to contributions from other social sciences such as political science and sociology has since increased considerably. As economic theories were shaped by the contact with other disciplines, new data sets on political and social variables have become more and more common in economic investigations. We are referring, for example, to Banks's (2001) Cross National Time Series, and to Gurr's (2001) Polity project. While part of the GHI literature has focused specifically on economic institutions, such as property rights

protection and financial contracts, other forms of institutions have also been extensively investigated, running from political institutions such as suffrage and constitutional design, to social contracts such as welfare and educational systems, down to other norms that belong to the private - rather than the public - sphere, such as family structure, inheritance laws and women's rights.

Within the broader GHI research line, a stream of it has specifically focused on the causation between institutions and growth. Acemoglu et al. (2004) advance a theoretical argument, supported by empirical tests, according to which institutions cause growth. Engerman and Sokoloff (2003) take a more cautious view and stress how institutions are in turn profoundly influenced by the economic and political environment. Another contrarian view is taken by Sachs (2003) who argues that geography is a more important determinant of income than institutions. While the debate on this fundamental point is still open, some recent work has indeed focused on the way institutions are formed in response to economic and non-economic factors. Engerman and Sokoloff (2002) show how factor endowments shaped economic and political institutions in the Americas. Barro (1999) studies the determinants of democracy, Barro and McCleary (2004) the emergence of state religion, Bertocchi and Strozzi (2004) the evolution of citizenship laws.

3. Summary and applications

To sum up, the GHI research line, planted on growth theory, stems both from availability of new data and from the emergence of new questions. The historical and the institutional dimension complement each other, since the economic impact of institution tends to manifest itself more clearly in the long run. The following applications illustrate the motivations and the implications of research on GHI. Far from representing an exhaustive survey, the topics and the contributions that we shall present aim at exemplifying a few of the most relevant issues raised within the recent GHI literature. The first application deals with the relationship between growth and colonization. Given the relevant time horizon, which starts from the first colonization wave in the 16th century, goes up to 19th century colonization and, finally, to the 20th century decolonization phase, this issue is intrinsically posed within a long time horizon which requires for its understanding the historical dimension. At the same time, because of the influence of colonization not only on economic outcomes, but also on institutions, it is clear that the institutional dimension is also crucial for capturing it

fully. The second application focuses on franchise extension and its relationship with the welfare state. Here again, to capture the full length of the evolution of the issue, it is necessary to go back to that time period at which institutional and political reforms were introduced. The next application is to the evolution of educational systems, which shares with the previous issue the basic time profile. The fourth application will analyze the relationship between economic structural reallocation and the evolution of political systems, also over a necessarily extended time horizon. Finally, we will discuss the question of international migration and its economic and institutional determinants, starting from the time period which witnessed the mass migration waves of the 19th century.

3.1. Colonization and growth

Initially at least, new growth theory - following classical growth theory in this respect - paid to the issue of colonization very little attention, despite its obvious potential relevance in light of the recent dismal performances of areas, like Africa, that were the stage of the more recent phase of colonial expansion. But this shortcoming should come to no surprise, as data availability, for the time period during which 19th century colonial domination is introduced and established, represents a formidable obstacle to any empirical investigation. In addition, it is only in a subsequent, more recent phase of the research on growth that the role of institutions – with their crucial impact on the countries that were colonized - has received proper consideration. Early exceptions are represented by Lucas (1990) and Grossman and Iyigun (1995), who develop static models where foreign intervention is optimally determined from the vantage point of the metropolitan country. Bertocchi (1994) represents the first attempt to analyze the historical determinants of underdevelopment by introducing colonization within an otherwise standard growth model of the colonial economy, which identifies two main features of colonial economic domination: a restricted inflow of foreign direct investment, which is controlled by the metropolitan country, and direct exploitation activities. This is therefore a model of extractive colonization which deliberately excludes a priori the experience of the socalled white colonies. The model shows that colonization can promote output growth but at the same time depress living standards in the colonies. It also predicts that decolonization may deliver disappointing, or even disastrous, economic performances, when investment withdrawal is accompanied by persistent

economic and institutional damage. An extension with a threshold externality a' la Azariadis and Drazen (1990) shows the potential long-term effect of colonization on human capital. Bertocchi and Canova (2002) test the implications of Bertocchi (1994) using standard growth regressions. To overcome the obstacle of data availability for the colonial period proper, they employ the Penn World Table to identify the consequences of colonial domination for the post-war period. While their main focus is on Africa, with the goal to uncover the mistery of Barro's (1991) sub-Saharan dummy, they also extend their investigation to the rest of the world. Their main findings are that colonial heritage, as measured by the identity of the metropolitan ruler and by the degree of economic penetration, matters for the heterogeneity of growth performances. In particular, they find evidence that colonization did exert a direct effect on the growth pattern of African countries and that it also affected physical and human capital accumulation and the sociopolitical factors typically thought to explain growth.

A related but separate research line has developed around the issue of colonialism following the original contribution by Acemoglu et al. (2001). With the more general goal to establish the importance of institutions for growth, they find in colonial history, and in a specific data set on the colonists' survival rate, a tool to instrument for institutions and solve their endogeneity problem. Engerman and Sokoloff (2002) also focus on colonial migration to understand the differential patterns of development among New World economies. A further stream of the literature on colonization, pioneered by La Porta et al. (1998) has stressed the fact that it represented the vehicle through which western legal systems spread around the world.

3.2. Franchise extension and the welfare state

Machiavelli (1981) in "The Prince" was perhaps the first to address the question of how to implement major reforms despite the presence of opponents. Between the end of the 19th century and the beginning of the 20th the voting franchise was progressively expanded in Europe. A natural question to ask is why would a political elite voluntarily agree to give up its power and extend the franchise. The answer to this question has generated an important stream of research, starting with Acemoglu and Robinson (2000), who model franchise extension as a commitment device that a ruling elite can choose on a once-and-for-all, universal basis, when faced by the threat of an upheaval. Whereas simple redistribution to the disenfranchised would

not be a credible deterrent against upheaval, franchise extension puts the choice of future redistribution in the hands of a median voter, thus assuring preemption. However, if the fear of a revolution was probably the correct motivation of Bismarck's policies, in England the franchise was extended without massive social unrest. Lizzeri and Persico (2003) therefore develop an alternative rationale according to which an elite may wish to expand the franchise even in the absence of serious threats to the established order. They provide a theoretical model in which, when a majority within the elite is dissatisfied with the functioning of current political institutions because of the inadequate provision of public goods, it is in the elite's interest to extend the franchise. Another aspect not captured by Acemoglu and Robinson (2000) is the fact that extensions have often been partial and gradual. Jack and Lagunoff (2003) formulate a model where in each period the enfranchised group can choose, through its median voter, to expand the set of citizens with voting rights. The resulting equilibria generate paths that display a gradual, sometimes uneven history of enfranchisement that is roughly consistent with observed patterns of extensions and can accommodate both explanations for franchise extension, i.e., the threat of insurrection and the ideological conflict within the elite. Bertocchi and Spagat (2001) show that the extension of a franchise can be modeled as a co-optation policy to avoid upheaval, since franchise extension implies redistributive transfers. Their focus is on the connection between franchise extension and size of the welfare state. In this light the creation of the welfare state by Bismarck can be viewed as a response to the mobilization of the working class, in an effort to undercut more radical demands by co-opting it into the prevailing political order. They characterize welfare transfers and show how societies with stronger upheaval technologies co-opt more people with larger offers than societies with weaker upheaval technologies, thus encompassing both Germany and England as special cases. They also show conditions for a co-optation strategy to imply the creation of a new, privileged group that separates itself from its group of origin, inducing an asymmetric treatment of a co-opted group and a non-coopted one. The emergence of a middle class is therefore explained by a "divide and conquer" strategy which can usefully be applied to other context such as ethnically divided societies.

3.3. The formation of school systems

Another topic which has received increasing attention, under the influence of contributions from the fields of history, sociology, and economic history, is the evolution of educational systems in a political economy perspective. Mueller et al. (1977) provide a socio-historical and comparative account of that decisive period, in the history of European education, that goes from 1870 to WWI. Before this time, the dominant form of secondary education was centered upon the classical languages and literature. The transformation that intervened was centered around the introduction of less prestigious institutions which were supposed to provide so-called modern, or technical, training. On the one hand, this transformation was meant to bring schools into closer interaction with the occupational system of the high industrial era. On the other, specific social roles and ranks were associated with different institutions, with technical curricula being ranked very low. Segmentation produced parallel, non-communicating tracks, with marked differences both in their curricula and the social origin of the students enrolled. The system that emerged, meant to perpetuate the hierarchical structure of these societies, was adopted by all European countries and, with some crucial differences, also by the United States. However, after WWII, the American secondary school system was the first to move in the direction of a mass preparatory, rather than a terminal, system based on the comprehensive school (see Trow, 1967, and Goldin, 1998). The sociology literature also has a long tradition of studying curriculum differentiation. The "functionalist" perspective emphasizes the role of technology in driving it, while the "conflict" perspective - inspired by Weber (1921) - sees it as an attempt by the elite to protect its exclusiveness. Within the GHI research line, Bertocchi and Spagat (2004) formulate a theoretical model that replicates the evolution of an educational system founded on a hierarchical differentiation between vocational and general education. The dynamics are best summarized by the ratio of the fraction of the population in vocational to that in general education, which can be interpreted as a measure of the degree of stratification of the society. In the model, this ratio first rises and then declines with the level of development, displaying an inverted U-shape which reflects the complex interaction between economic and political forces. By incorporating technological progress and sociopolitical change, this approach integrates aspects of both the functionalist and the conflict approach while being closer in spirit to the latter since curricula differentiation serves the purpose of perpetuating the pre-existing social order through a process of exclusion of the emerging middle classes from the more prestigious, academically oriented institutions. Accordingly, in an early stage of economic development, vocational curricula tend to expand, while the

subsequent rise of the economic and political power of the middle class provoke an enlargement of general education at a later stage. While the model is designed to capture the specific dynamics of the education mix, it also offers consistent and useful predictions for the evolution of aggregate income, wealth distribution and political participation. Aggregate income grows throughout the process, inequality initially rises and eventually declines, and political participation gradually expands. The theoretical results are supported by cross-section evidence for the post-war period. Bertocchi and Spagat (1997) demonstrate that this theory fits well the historical evolution of the school system in Italy starting from the unification of the country in 1861. Within the political economy fields, a growing recent literature on education has addressed other questions, without adding, however, a historical dimension. Glomm and Ravikumar (1992), Saint-Paul and Verdier (1993), Fernandez and Rogerson (1995), Benabou (1996), and Gradstein and Justman (1997) focus on several specific aspects such as public vs. private financing and local vs. state provision. Moreover, in an explicit long-term perspective, a number of other papers have focused – like Bertocchi and Spagat (2004) on the role of a self-interested elite group in shaping educational systems. Bourguignon and Verdier (2000) analyze the dynamics of inequality, democratization and economic development in a political economy model of growth where education is both the engine of growth and a determinant of political participation. They investigate the incentives for an educated oligarchy to subsidize the poor's education and to initiate a democratic transition and show that the elite may promote the endogenous emergence of a middle class for purely political economy reasons. Galor and Moav (2003) hypothesize that the demise of the 19th century's European class structure reflects a deliberate transformation of society orchestrated by the capitalists as an optimal reaction to the increasing importance of human capital in sustaining their profit rates. Due to the complementarity between physical and human capital in production, the capitalists were among the prime beneficiaries of the accumulation of human capital by the masses and therefore had the incentive to support public education, despite this would ultimately undermine their position in the social ladder. Galor et al. (2003) stress the negative attitude of great landowners towards public expenditure on education.

3.4. Industrialization and democratization

Another issue at the heart of the GHI research line is the relationship between economic development and political change or, more precisely, the evolution of countries from aristocracies based on the land to industrialized democracies. A few attempts have been recently made to explain the long-term determinants of class structure and political participation and their connection with the process of structural reallocation from agriculture to manufacturing. This work owes to the literature on interest group politics, first initiated by Kuznets (1968), and expanded by Olson (1982) and Mokyr (1990). More specifically, Bertocchi (2003) looks at the historical evolution of the relationship between an economy's structure and the corresponding political system, with a focus on Europe and the agrarian basis of the feudal system. The paper develops a dynamic specific-factor model with an agricultural sector and a manufacturing sector, and two types of individuals, landlords and land-less workers. Since political power is determined by wealth, land ownership immediately entitles the aristocracy to political power, while there exists a minimum capital bequest requirement for active participation of land-less workers in the political process. Individuals vote on the removal of feudal privileges, modeled as the appropriation of a portion of the agriculture product by the landlords. The model generates the following results. In the initial, primarily agrarian phase landlords hold all political power and impose feudal rights on peasants. As capital accumulates, workers start migrating towards the manufacturing sector, and the agricultural sector shrinks. As the workers' capital increases, the process of democratization begins. The expansion of political participation is therefore endogenously determined by the process of economic development. Once the distortive feudal rights are abolished by a bourgeois majority, capital accumulation and income growth accelerate, so that wealth equalization and democratization further progress. Since feudal rents constitute a growth-retarding factor, their removal makes agriculture more efficient, retarding its decline. To sum up, the model establishes a connection between the evolution of society from an aristocratic political system into a democracy, and the process of capital accumulation and sectoral reallocation from agriculture into manufacturing, and generates a theory of endogenous determination of the voting franchise, which is linked to the evolution of wealth composition and distribution. To be noticed is that this model best captures the transition from feudalism to the triumph of bourgeois power at the end of the 18th century, before formal suffrage legislation is introduced. Recent work on the role of agriculture in development - outside of a historical perspective - includes Caselli and Coleman (2001), who focus on regional growth patterns in the U.S. during the past century, Gollin et al.

(2002), who stress the role of agricultural productivity in explaining cross-country income disparities, and Horowitz (1993), who focuses on the related issue of land reform. In an explicitly long-term perspective, Acemoglu and Robinson (2002) link economic backwardness to political considerations in the spirit of Gerschenkron (1962). In their set up, political elites may block technological and institutional development because innovations tend to erode their incumbency advantage, by increasing the likelihood that they will be replaced. They show that it is only when political competition is limited that elites will block development, and in this light they offer an an interpretation for why Britain, Germany and the U.S. industrialized during the nineteenth century, while the landed aristocracy in Russia and Austria-Hungary blocked development. Justman and Gradstein (1999) also analyze the interdependent processes of economic and political development in a dynamic perspective. Their model provides a characterization of the endogenous transition from oligarchic to democratic institutions under different potential scenarios. Democratization can be initiated by a strong elite aiming for economic benefits of democracy, or can be forced by a politically disenfranchised majority under the shadow of conflict, while revolutions can also arise under different conditions.

A theme that this literature developed on the side, as a by-product of the more general implications for growth and democracy, is that of family structure and inheritance laws. Bertocchi (2003) observes that in a feudal society, in the presence of a politico-economic constraint on the minimum size of estates, land cannot be alienated so that primogeniture emerges as the norm regulating the intergenerational transmission of property rights on land. Therefore, as agrarian, aristocratic societies evolve towards industrialization and democratization, we also witness an evolution in the legal system regulating the intergenerational transfers of property rights, with primogeniture being replaced by equal partition. As divisible capital replaces indivisible land, partition promotes equalization, whereas primogeniture amplified wealth inequality. The connection between other aspects of family structure and the economic and political environment has also been explored recently by Botticini and Siow (2003) and Guner (1999), who focus on dowries and marriage systems, respectively.

3.5. The political economy of migration

The history of international migration is also a history of political decisions and institutional development. A specific literature has focused on 19th century mass migration and its political economy implications. During the first half of the century, Britain was the main source of emigration. Germany, Scandinavia and then Southern and Eastern Europe joined in during the second half. The main destination was North America, followed by South America and Australia. Most of the migrants were young, many took advantage of friends and relatives networks, economic incentives were crucial determinants of their decision, and their skill level tended to decline over time (see Taylor and Williamson, 1997, and Hatton and Williamson, 1998). While the period that precedes WWI is often referred to as the era of free migration, in fact policy started to respond as early as from the 1890s, when the US frontier was officially declared closed, soon followed by other New World countries. Timmer and Williamson (1998) construct an index of immigration barriers in the main destination countries from 1850 to 1930 and find that the most important determinant of increasing policy restrictiveness was a measure of inequality given by the ratio of the unskilled wage to per capita income, while they find no evidence in support of alternative motivations such as racism or xenophobia. During the interwar period restrictive immigration policies became the norm, soon involving, besides the traditional lands of immigration, also the countries of Europe that were newly exposed to inflows. After WWII, restrictions persisted and took a variety of forms (quotas, points systems, and the like), often in the attempt to attract high-skill workers and discourage the low-skill. From a twenty-four countries survey conducted in 1995, O'Rourke and Sinnott (2003) find that voters' attitudes towards immigration negatively respond to factors such as patriotism and chauvinism, so that economics alone cannot explain the hostility towards immigration which is expressed in many countries. On the other hand, economic factors also play a role, with high-skill individuals tending to be less anti-immigration in rich countries than in poor countries, and in countries with more equal income distributions. Bertocchi and Strozzi (2004) focus on a specific form of institutions, citizenship acquisition, and its relationship with migration. Citizenship laws come from two broad traditions, common and civil law, the former applying the jus soli principle, according to which a child is a citizen as long as he is born in a given country, the latter the jus sanguinis principle, according to which a child simply inherits his parents' citizenship. They show that the impact of the original, exogenously-given laws on international migration is insignificant for the early, mass migration waves, which confirm to be driven primarily by economic incentives. For post-war data, they investigate the determinants of citizenship

laws evolution and find that their convergence can be linked to legal tradition and international migration, but is also affected by border stability, the degree of democracy, the welfare burden, colonial history, and cultural factors such as religion and ethno-linguistic fractionalization.

4. A new standard

From an evaluation of the five applications just reviewed, one common factor clearly emerges: their timing. Each of them traces the evolution of a specific economic and social issue starting, in all cases, from the second half of the 19th century. Indeed it is around 1850 that colonial expansion starts changing its nature, with the old colonialists - Portugal, Spain, the Netherlands - being replaced by much stronger new ones such as England, France, Belgium and, later, also Germany and Italy. With 1870 the age of imperialism begin its course. In Britain, the franchise was extended first in 1832, and then again in 1867 and 1884, while the school reform process leading to the modern system started with the Education Act in 1870. The rest of the European countries followed a similar pattern. While the French revolution is commonly viewed as the turning point with respect to the elimination of feudal privileges, agrarian relations survived in Europe well beyond the Restoration, and it is only toward the end of the 19th century that process of industrialization is completed in most of Europe. Finally, the second half of the same century is also the age of mass migration from the Old to the New World. To sum up, the period starting around the year 1870 has the potential to become the new standard for theoretical and empirical work in growth theory. Indeed historians identify 1870 as a decisive turning point, both politically and economically: but why 1870? Taking a step back, we can identify three crucial events during the century that preceded 1870. These events provoked an economic, social and political upheaval that involved the entire world (see Caracciolo, 1989). We are referring, first of all, to the Industrial Revolution, starting its slow course in England between 1760 and 1790, and to the two political revolutions occurring in America in 1776 and in France in 1789. These events marked the end of the Ancien Regime and the rise of the bourgeoisie as the ruling class. However, the apex of bourgeois power will only reached in the second half of the century when, after the instabilities of 1848, a consolidated institutional background is established and a new economic impulse is given to the emerging middle class. The period between 1850 and 1870 also witnesses huge changes. Economic growth,

despite short cyclical recessions in 1857 and 1866, reaches its highest level ever. Technological progress, which affects industrial production but also agriculture, transportation and trade, intensifies. Manufacturing accelerates its take-over of agriculture, and the tertiary sector also starts its expansion. Rural areas are extended and urbanization spreads. New demographic trends and unprecedented social and geographical mobility also characterize this period. The new social class emerging from this process stands in between the high bourgeoisie, which was always close to the aristocracy, and the menial working class proper. This middle class, which includes merchants, professional workers, and clerks, will expand exponentially in the following decades. With 1871, the end of the Franco-Prussian war marks the beginning of a prolonged period of relative peace that will last until WWI, and Germany's unification settles the geography of Europe. In the same year the Commune in Paris changes the connotations of class conflict. In the next forty years, the Western world will witness a profound political transformation with the development of the trade unions and the creation of the socialist parties, as the establishment of the industrial bourgeoisie is accompanied by the emergence of the urban proletariat. Political reforms will follow, together with reforms of the educational system, the bureaucracy, and the welfare state. Trade and the international financial system also develop, together with the process of colonization and with international migration. Therefore, the beginning of the seventies of the nineteenth century indeed represents a decisive turning point, politically, socially and economically, that marks the beginning of the contemporary age.

All this suggests a broad agenda for future research on GHI, which is at the same time ambitious but, judging from the progress previously reviewed, also feasible. This agenda involves the re-visiting of all the issues for which a post-WW2, Penn-Table consensus has been reached - starting from the causes if growth and prosperity - taking the year 1870 as the beginning of the new reference period. This will allow, on the one hand, to capture long-term time variations and patterns of historical evolution previously uncovered and, at the same time, to recognize in full the role of institutional factors, and their interaction with purely economic ones. We have the data, we have the models, we can do it.

5. Conclusion

His February 20th, 2003 obituary in The Economist magazine described the role of Walt Rostow in actual policymaking. As a development economist, in 1960 he had published "The Stages of Economic Growth: A Non-Communist Manifesto", where he had exposed his thesis that prosperity brings democracy, and that rapid economic growth should induce poor countries to embrace capitalism rather than communism. When Kennedy became president in 1961, Rostow became one of his advisers, and soon became particularly involved with Vietnam. The South of the country was under the economic and political influence of the United States and was developing fast, but was under the threat of the communist guerrilla from the North. Rostow's advice was to fight the guerrilla to protect the development of the South and help contain the spread of communism in the area. Under Johnson, Rostow rose to the rank of National Security Advisor and masterminded the escalation of the intervention. Unlike McNamara (1995), who had served as Defence Secretary under Kennedy and Johnson but later admitted the failure of the Vietnam war and attributed it to the United States' "profound ignorance of the history, culture and politics of the people in the area", Rostow always remained convinced that the intervention had achieved its scope in delaying the advance of communism in South-East Asia long enough for the area to takeoff economically and joining the path towards democracy. Thus, it was the Rostow thesis that justified the Vietnam war. To these days, the question of the long-term relationship between democracy and prosperity is still an open one. This story should convince the reader of the practical relevance, for domestic policymaking and international affairs, of research aimed at uncovering the interrelationship among growth, history and institutions.

REFERENCES

Acemoglu, D. and Robinson, J.A., 2002, Economic Backwardness in Political Perspective, NBER Working Paper No. 8831.

Acemoglu, D. and Robinson, J.A., 2000, Why Did the West Extend the Franchise? Democracy, Inequality, and Growth in Historical Perspective, Quarterly Journal of Economics 115, 1167-1199.

Acemoglu, D., Johnson, S. and Robinson, J.A., 2004, Institutions as the Fundamental Cause of Long-Run Growth, in Aghion, P. and Durlauf, S. (eds.), Handbook of Economic Growth, North-Holland, Amsterdam.

Acemoglu, D., Johnson, S. and Robinson, J.A., 2001, The Colonial Origins of Comparative Development: An Empirical Investigation, American Economic Review 91, 1369-1401.

Azariadis, C. and Drazen, A., 1990, Threshold Externalities in Economic Development, Quarterly Journal of Economics 55, 501-526.

Banks, A., 2001, Cross-National Time Series, 1815-1999, Center for Comparative Political Research State University of New York, Binghamton.

Barro, R.J., 1999, Determinants of Democracy, Journal of Political Economy 107, Part 2, S158-S183.

Barro, R.J., 1991. Economic Growth in a Cross Section of Countries, Quarterly Journal of Economics 106, 407-444.

Barro, R.J. and McCleary, R.M., 2004, Which Countries Have State Religion?, NBER Working Paper No. 10438.

Benabou, R., 1996, Heterogeneity, Stratification, and Growth: Macroeconomic Implications of Community Structure and School Finance, American Economic Review 86, 584-609.

Bertocchi, G., 2003, The Law of Primogeniture and the Transition from Landed Aristocracy to Industrial Democracy, CEPR Discussion Paper No. 3723.

Bertocchi, G., 1994. Colonialism in the Theory of Growth, Brown University Working Paper No. 94-14.

Bertocchi, G. and Canova, F., 2002, Did Colonization Matter for Growth? An Empirical Exploration into the Historical Causes of Africa's Underdevelopment, European Economic Review 46, 1851-1871

Bertocchi, G. and Spagat, M., 2004, The Evolution of Modern Educational Systems. Technical vs. General Education, Distributional Conflict, and Growth, Journal of Development Economics 73, 559-582.

Bertocchi, G., Spagat, M., 2001, The Politics of Co-optation, Journal of Comparative Economics 29, 591-607.

Bertocchi, G., Spagat, M., 1997, Il Ruolo dei Licei e delle Scuole Tecnico-professionali tra Progresso Tecnologico, Conflitto Sociale e Sviluppo Economico, in Rossi, N. (ed.), L'Istruzione in Italia: Solo un Pezzo di Carta? il Mulino, Bologna, 421-459.

Bertocchi, G. and Strozzi, C., 2004, Citizenship Laws and International Migration in Historical Perspective, mimeo, University of Modena and Reggio Emilia.

Botticini, M. and Siow, A., 2003, Why Dowries?, American Economic Review 93, 1385-1398.

Bourguignon F. and Verdier, T., 2000, Oligarchy, Democracy, Inequality and Growth, Journal of Development Economics 62, 285-313.

Caracciolo, A., 1989, Alle Origini della Storia Contemporanea, il Mulino, Bologna.

Caselli, F. and Coleman, J.W.II, 2001, The U.S. Structural Transformation and Regional Convergence: A Reinterpretation, Journal of Political Economy 109, 584-616.

Engerman, S. and Sokoloff, K.L., 2003, Institutional and Non-institutional Explanations of Economic Differences, NBER Working Paper No. 9989.

Engerman, S. and Sokoloff, K.L., 2002, Factor Endowment, Inequality, and Paths of Development Among New World Economies, NBER Working Paper No. 9259.

Fernandez, R., Rogerson, R., 1995, On the Political Economy of Education Subsidies, Review of Economic Studies 62, 249-262.

Galor, O., 2004, From Stagnation to Growth: Unified Growth Theory, in Aghion, P. and Durlauf, S. (eds.), Handbook of Economic Growth, North-Holland, Amsterdam.

Galor, O. and Moav, O., 2003, Das Human Kapital: A Theory of the Demise of the Class Structure, mimeo, Brown University.

Galor, O., Moav, O. and Vollrath, D., 2003, Land Inequality and the Origin of Divergence and Overtaking in the Growth Process: Theory and Evidence, mimeo, Brown University.

Gerschenkron, A., 1962, Economic Backwardness in Historical Perspective, Harvard University Press, Cambridge.

Glomm, G., Ravikumar, B., 1992, Public versus Private Investment in Human Capital: Endogenous Growth and Income Inequality, Journal of Political Economy 100, 818-834.

Goldin, C., 1998, America's Graduation from High School: The Evolution and Spread of Secondary Schooling in the Twentieth Century, Journal of Economic History 58, 345-374.

Gradstein, M., Justman, M., 1997, Democratic Choice of an Education System: Implications for Growth and Income Distribution, Journal of Economic Growth 2, 169-184.

Gollin, D., Parente, S. and Rogerson, R., 2002, The Role of Agriculture in Development, American Economic Review 92, 160-164.

Grossman, H.I. and Iyigun, M., 1995, The Profitability of Colonial Investment, Economics and Politics 7, 229-242.

Guner, N., 1999, An Economic Analysis of Family Structure: Inheritance Rules and Marriage Systems, mimeo, University of Rochester.

Hatton, T.J. and Williamson, J.G., 1998, The Age of Mass Migration: Causes and Economic Impact, Oxford University Press, Oxford.

Heston, A., Summers, R. and Aten, B., 2002, Penn World Table Version 6.1, Center for International Comparisons at the University of Pennsylvania (CICUP), October.

Horowitz, A.W., 1993, Time Paths of Land Reform: A Theoretical Model of Reform Dynamics, American Economic Review 83, 1003-1010.

Jack, W. and Lagunoff, R., 2003, Dynamic Enfranchisement, mimeo, Georgetown University.

Justman, M. and Gradstein, M., 1999, The Industrial Revolution, Political Transition, and the Subsequent Decline in Inequality in 19th Century Britain, Explorations in Economic History 36, 109-127.

Kuznets, S., 1968, Towards a Theory of Economic Growth, Yale University Press, New Haven.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R., 1998, Law and Finance, Journal of Political Economy 106, 1113-1155.

Lizzeri, A., and N. Persico, 2004, Why Did the Elites Extend the Suffrage? Democracy and the Scope of Government, with an Application to Britain's 'Age of Reform', Quarterly Journal of Economics 119, 707-765.

Lucas, R.E.Jr., 1990, Why Doesn't Capital Flow from Rich to Poor Countries?, American Economic Review 80, 92-6.

Lucas, R.E.Jr., 1988, On the Mechanics of Economic Development, Journal of Monetary Economics 22, 3-32.

Machiavelli, N., 1981, The Prince, Penguin, Harmondsworth.

Maddison, A., 2001, The World Economy. A Millennial Perspective, OECD, Paris.

McNamara, R., 1995, In Retrospect: The Tragedy and Lessons of Vietnam, Times Books, New York.

Mitchell, B.R., 2003, International Historical Statistics, 1750-2002, Vol. I: Europe, Vol. II: The Americas,

Vol. III: Africa, Asia & Oceania, Palgrave Macmillan, New York.

Mokyr, J., 1990, The Lever of Riches: Technological Creativity and Economic Progress, Oxford University Press, New York.

Mueller, D.K., 1977, The Process of Systematisation: The Case of German Secondary Education, in Mueller, D.K, Ringer, F. and Simon, B. (eds.), The Rise of the Modern Educational System: Structural Change and Social Reproduction. Cambridge University Press, Cambridge, 15-52.

North, D.C., 1990, Institutions, Institutional Change, and Economic Performance, Cambridge University Press, New York.

North, D. C., 1981, Structure and Change in Economic History, W.W. Norton & Co., New York.

Olson, M., 1982, The Rise and Decline of Nations: Economic Growth, Stagflation, and Economic Rigidities, Yale University Press, New Haven and London.

O'Rourke, K. and Sinnott, R., 2003, Migration Flows: Political Economy of Migration and the Empirical Challenge, mimeo, Trinity College Dublin.

Polity IV, 2002, Political Regime Characteristics and Transitions, 1800-2002, Center for International Development and Conflict Management, University of Maryland.

Romer, P.M., 1986, Increasing Returns and Long-run Growth, Journal of Political Economy 94, 1002-1037.

Rostow, W.W., 1960, The Stages of Economic Growth: A Non-communist Manifesto, Cambridge University Press, Cambridge.

Sachs, J. 2003, Institutions Don't Rule: Direct Effects of Geography on Per Capita Income, NBER Working Paper No. 9490.

Saint-Paul, G., Verdier, T., 1993. Education, Democracy, and Growth, Journal of Development Economics 42, 399-407.

Solow, R.M., 1956, A Contribution to the Theory of Economic Growth, Quarterly Journal of Economics 70, 65-94.

Taylor, A.M., and Williamson J.G., 1997, Convergence in the Age of Mass Migration, European Review of Economic History 1, 27-63.

The Economist, 2003, Walt Rostow, February 20th.

Timmer, A. and Williamson, J.G., 1998, Immigration Policy Prior to the Thirties: Labor Markets, Policy Interactions and Globalization Backlash, Population and Development Review 24, 39-71.

Trow, M., 1967. The Second Transformation of American Secondary Education, in Bendix, R. and Lipset,

S.M. (eds.), Class, Status, and Power, Routledge & Kegan Paul, Lindon, 437-449.

Weber, M., 1921, Economy and Society, University of California Press, Berkeley.

Williamson, J. G., 1995, The Evolution of Global Labor Markets since 1830: Background Evidence and Hypotheses, Explorations in Economic History 32, 141-196.