



ELSEVIER

Contents lists available at [ScienceDirect](#)

Journal of Comparative Economics

journal homepage: www.elsevier.com/locate/jce

A story of large landowners and math skills: Inequality and human capital formation in long-run development, 1820–2000

Joerg Baten ^{a,*}, Dácil Juif ^b

^a University of Tübingen, CESifo, Melanchthonstraße 30, 72074 Tübingen, Germany

^b University of Tübingen, Melanchthonstraße 30, 72074 Tübingen, Germany

ARTICLE INFO

Article history:

Received 19 February 2013

Revised 2 October 2013

Available online xxx

JEL classification:

Q15

N30

I24

O15

Keywords:

Land inequality

Human capital

Economic history

ABSTRACT

Baten, Joerg, and Juif, Dácil—A story of large landowners and math skills: Inequality and human capital formation in long-run development, 1820–2000

We create a new dataset to test the influence of land inequality on long-run human capital formation in a global cross-country study and assess the importance of land inequality relative to income inequality. Our results show that early land inequality has a detrimental influence on math and science skills even a century later. We find that this influence is causal, using an instrumental variable (IV) approach with geological, climatic and other variables that are intrinsically exogenous. A second major contribution of our study is our assessment of the persistence of numerical cognitive skills, which are an important component of modern human capital measures. Early numeracy around 1820 is estimated using the age-heaping strategy. We argue that countries with early investments in numerical education entered a path-dependency of human capital-intensive industries, including skill-intensive agriculture and services. The combined long-run effects of land inequality and human capital path-dependence are assessed for the first time in this article. *Journal of Comparative Economics* xxx (xx) (2013) xxx–xxx. University of Tübingen, CESifo, Melanchthonstraße 30, 72074 Tübingen, Germany; University of Tübingen, Melanchthonstraße 30, 72074 Tübingen, Germany.

© 2013 Association for Comparative Economic Studies Published by Elsevier Inc. All rights reserved.

1. Introduction

“How can they understand politics, if they do not even know where they are standing? They might vote for the communists, like the mining workers in the North...” (Isabel Allende, 1982).¹

In Isabel Allende’s novel “La Casa de los Espíritus”, the large landowner Esteban Trueba was sure that the day laborers on his estate were not capable of making wise political decisions and should therefore not acquire voting rights. However, he was most likely an exceptional landowner in Chile at the time, as he built a school for his workers during the early 20th century.

Recently, Galor et al. (2009) (henceforth GMV) argued that two different elite groups strongly influenced political decision-making about educational reforms: large landowners and industrialists. “Latifundia” (large estate) owners were typically not interested in tax-financed mass-schooling programs that would remove unskilled day laborers from the

* Corresponding author. Fax: +49 (0)7071 29 51 19.

E-mail addresses: joerg.baten@uni-tuebingen.de (J. Baten), dacil.juif@uni-tuebingen.de (D. Juif).

¹ Own English translation from the Spanish original version of “Ghost House”.

agricultural workforce on their estates or make them rebellious. Industrial capitalists, in contrast, typically favored a workforce that had at least some basic skills. In countries that displayed a large amount of land inequality, such as some Latin American countries, the elite landowner group gained political power because their large estates provided financial and social backing to influence the ruling groups. In the process of industrialization, countries with a more equal distribution of land overtook countries with high inequality and performed better in terms of modern income growth. According to [Wegenast \(2009, 2010\)](#), plantation owners also had political reasons to neglect educational expansion, for instance, by monopolizing the decision-making process for literacy requirements for suffrage. GMV provided some evidence regarding regional land inequality and school investment in the U.S. from 1880–1940 as well as some qualitative evidence on land reforms in East Asia and Russia. [Hippe and Baten \(2012\)](#) recently tested and confirmed the link between land inequality and human capital development for European regions.

However, the implications of these theories have not been tested for a large cross-section of countries over the long run, partly because evidence of early inequality for poorer countries was scarce. We create a new dataset to test the influence of land inequality on long-run human capital formation. The methodological idea is to (1) use evidence of 20th century land inequality, (2) assess the influence of land reforms and (3) estimate late 19th century land inequality on the basis of backward projection.

In this study, we assess the influence of both within-country land and income inequality on human capital formation for the period from 1964 to 2003. As a measure of income inequality, we use a recently created global dataset by [Baten et al. \(2012\)](#) and [Blum and Baten \(2011\)](#). This dataset documents within-country income inequality, employing anthropometric inequality measures as well as income distribution (and GDP per capita divided by wages of unskilled workers, so-called “Williamson Ginis”, and other indicators).

Which measure of human capital should be employed as a dependent variable? We argue that a measure should be used that is most conducive to economic growth. For example, school years have often been criticized because the productivity of a school hour differs between countries and cultures and, thus, is not a perfect growth predictor. Recently, the leading human capital economists [Hanushek and Woessmann \(2012a, 2012b\)](#) argued that cognitive skill test results related to math and science abilities are the strongest correlates of economic growth. They extended the famous PISA results from the 2000s into the period 1964–2003 by recalibrating a large number of international math and science tests; they also developed a comprehensive index of those core skills that will be our dependent variable.

A second major contribution of our study is our assessment of the long-run persistence of numerical cognitive skills, which are an important component of the Hanushek–Woessmann measure. We include a new measure of numeracy around 1820 that is constructed on the basis of age-heaping estimates. We argue that countries with early investments in numerical education (and perhaps cultures that promoted numerical skills) entered a path-dependency of human capital-intensive industries, including skill-intensive agriculture and services. Those countries that took the numerical lead (but not necessarily the lead in living standards) in the 1820s were situated in Scandinavia, Central and Western Europe, and East Asia. In the second wave, North American, Southern and East-Central European countries followed. Other world regions lagged behind.

The next section provides a literature overview on the determinants of human capital formation, such as institutional quality, geography, fertility choice and physical capital. In Section 3, we introduce the data and sources. Sections 4 and 5 describe the OLS and instrumental variable test regression results of our empirical study. Section 6 concludes.

2. Components of human capital formation

A number of theories have been proposed to explain the great divergence in education that took place over the past two centuries and had a strong influence on income divergence. Some influential studies have emphasized the detrimental effect that early inequality had on the emergence of human capital and growth-promoting historical institutions ([Engerman and Sokoloff, 1997](#); [Sokoloff and Engerman, 2000](#); [Acemoglu et al., 2001, 2002](#)).²

[Sokoloff and Engerman \(2000\)](#) hypothesized that in more unequal societies, the elites gained power to influence the choice of legal and economic institutions. In those countries that were unequal, a small number of elites restricted the rights of the majority of people, such as in education and voting, to perpetuate the existing social structures and maintain or even reinforce their elite status.³

[GMV \(2009\)](#) set up a theoretical model showing that an unequal land distribution in a country negatively affects per capita income in the long run by delaying the implementation of human capital-promoting institutions. These authors argued that two different elite groups strongly influenced political decision-making about educational reforms: large landowners and industrialists. In contrast to “latifundia” owners – who were typically not interested in tax-financed mass-schooling programs – industrial capitalists preferred a workforce with at least some basic skills because education increased productivity in the industrial sector more than in agricultural production. Especially numerical skills can only be developed to a higher level if public funds are spent on well-educated math teachers. Rich landowners often did not send their own children to

² Institutions are normally divided into growth-promoting and growth-retarding types of institutional set-ups. For example, if the risk of expropriating wealth is high due to “bad institutions”, incentives to invest are lacking that otherwise could have promoted economic and technological advances ([North, 1981](#); [Acemoglu et al. 2001, 2002](#)).

³ According to [Lindert \(2004\)](#), the burden of educating laborers had more weight than its benefits (preventing crime and sedition) from the landlords’ point of view. The premise was that as educated workers sought better-paid jobs outside the agricultural sector, the political supremacy of the landed elite could be threatened, and their taxes would be raised to subsidize the masses.

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات