Journal of Public Economics 160 (2018) 66–81

Contents lists available at ScienceDirect

Journal of Public Economics

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

Education and propaganda: Tradeoffs to public education provision in nondemocracies☆

Patrick A. Testa

Department of Economics, University of California, Irvine, United States

ARTICLE INFO

JEL classification:
I25
H52
O43

Keywords:
Public education
Propaganda
Political participation
Second-best
Development
Human capital
Social capital
Nondemocracy

ABSTRACT

Nondemocratic regimes face a tradeoff when investing in public education. Education promotes human capital acquisition, expanding the tax base. Yet it also enhances political sophistication and participation, at a cost to nondemocratic regimes. To relax this tradeoff, a regime can disseminate propaganda through its education system. I show that even Bayesian citizens can be influenced by propaganda. By deterring political opposition, propaganda can induce nondemocracies to invest in education when they otherwise would not, improving social welfare. When propaganda is too strong, however, it can generate a backlash. Using cross-country and survey data, I find evidence consistent with the predictions.

1. Introduction

Why do nondemocracies invest in public education? Doing so promotes human capital acquisition and social cohesion, favoring economic development and expanding the tax base.[1] Yet the same forces may also promote political development, enhancing political sophistication and participation.[2] Indeed, education has historically been restricted to certain groups in expectation of this. Many U.S. states banned the education of slaves prior to the Civil War, while Colonial powers in Africa and East Asia often adopted similar measures against indigenous peoples, even though the resulting productivity gains would have benefitted economic elites in both cases (Woodson, 1915; Bjork, 2005). Given this, the extent to which many modern nondemocracies invest in education is puzzling.[3]

Nevertheless, another view holds that nondemocratic regimes use public education to shape public opinion and control civil society. Early compulsory education systems in Europe and North America were designed principally to unify historically disparate groups around new national identities in the process of nation-building (Alesina and Reich, 2015; Bandiera et al., 2017). Likewise, 20th century authoritarian states often used public schools to promote compliance with autocratic power structures and state-sanctioned ideologies.[4]

This paper brings these two views together, treating them as separate dimensions of public education that interact in important ways. In doing so, it generates new insight into why many nondemocracies choose to invest in public education when doing so can promote political development. In particular, this paper explores how a ruler can alter the incentives underlying public education provision by manipulating the content of education. To do this, I draw from a vast literature from across the social sciences, which conceives of political

☆ I am grateful to the editor, Erik Snowberg, and two anonymous referees for comments that substantially improved this paper, as well as Stergios Skaperdas and Jean-Paul Carvalho for their guidance. I also thank Daniel Bogart, Damon Clark, Yang Su, Matthew Freedman, Battista Severgnini, Kara Dimitruk, Brian Albrecht, Michael Shin, and participants in talks held by the Theory, History, and Political Economy workshop and the Institute for Mathematical Behavioral Sciences at UC Irvine, Washington University in St. Louis, ASREC, and the Public Choice Society for valuable comments and suggestions. Thanks to UC Irvine and the Institute for Humane Studies for financial support. All errors are my own.

E-mail address: ptesta@uci.edu.

[1] See Gradstein and Justman (2000, 2002), Glaeser et al. (2004), and Galor and Moav (2006).

[2] See Lipset (1959), Dee (2004), Milligan et al. (2004), Yanagizawa-Drott (2014), Chong and Gradstein (2015), and Friedman et al. (2016). Some argue that education leads to democracy. For this debate, see Acemoglu et al. (2005) and Castelló-Climent (2008).

[3] Lott (1999) and Bursztyn (2016) note positive associations between nondemocracy and various measures of public education provision among lower income countries. Aghion et al. (2014) find this trend more generally, although Acemoglu et al. (2015) suggest a reversal at the secondary level. De la Croix and Doepke (2009) do not observe this trend, but find variance in education spending to be increasing in non-freedom, with non-free countries dominating the right tail.

[4] See Cantoni et al. (2017), Alesina and Fuchs-Schundeln (2007) and Voigtlander and Voth (2015).

https://doi.org/10.1016/j.jpubeco.2018.03.001
Received 30 May 2017; Received in revised form 1 March 2018; Accepted 7 March 2018

engagement as something learned and habituated early in life.[5] In this view, public education promotes political participation to the extent that it tends to facilitate involvement in political and other social activities. However, this effect varies with the style and content of education.

With that in mind, I develop a model examining a ruler's decision to invest in public education. With some probability the ruler has predatory objectives, seeking only to maximize his own rents. Indeed, providing education may increase his taxation revenues. Yet education also enables citizens to become active in political "clubs." In the model, this promotes acquisition of inputs needed for citizens to credibly oppose high taxes in the future (i.e. political participation).

A ruler is not naive to this: if he invests in education, then he decides whether to adopt a curriculum embedded with propaganda. In the model, the content of education provides a signal of the political environment, [6] influencing citizens' beliefs about the importance of developing inputs useful for political participation relative to labor. By distorting this signal, propaganda can decrease a citizen's expected payoffs from political uses of human capital relative to productive ones, making joining a political club seem more costly. As a result, it can induce suboptimal levels of political participation and higher taxes in an equilibrium with public education, making its provision more appealing to a predatory ruler.

However, citizens are also not naive to a ruler's incentives to disseminate propaganda. Although propaganda increases the likelihood that a citizen is exposed to a "ruler-favorable" curriculum, it also decreases the value of public schooling for learning about the political environment. Too much propaganda can generate excessive uncertainty, such that joining a political club becomes social insurance against future expropriation. In this case, propaganda *encourages* political participation and in turn lower taxes whenever a predatory ruler invests in public education.[7] Moreover, as society becomes more productive, the potential costs of not becoming politically active increase, such that this outcome is more likely to occur.

Propaganda can therefore make investments in education more appealing to a predatory ruler when initial productivity growth from education is relatively modest, letting him promote economic development while extracting greater rents. Nevertheless, by making education provision desirable, propaganda can actually make citizens *better off*. Further development will then correspond to a shift away from propaganda to more neutral educational content, and in sufficiently high productivity settings, educational content will forgo propaganda entirely. In this latter scenario, a predatory ruler always benefits from investing in public education, inducing optimal political participation levels and low taxes. I provide evidence consistent with these predictions in Section 3.

As previously noted, much of the existing literature treats public education provision as either a means for a ruler to increase his rents, often at the risk of uprising or democratization, or a means of indoctrinating citizens in order to *reduce* the risk of insurrection. This paper adds to this discussion by considering an interaction of these two views. On one hand, it follows Bourguignon and Verdier (2000), in which education promotes economic growth but is also politically costly, as in this paper. Both models generate equilibria in which sufficient income growth from education induces investment, even if political development cannot be constrained. In their setup, however, education serves as a *de facto* franchise extension, generating intermediate equilibria in which elites retain political power by providing education only to some. This paper considers an alternative mechanism by which political externalities of public education can be reduced without varying its provision. Namely, it considers how changes within the education system, particularly with regard to its content, can relax political barriers to public education provision. Also related is Glaeser et al. (2007), who discuss a model of political transition in which human capital benefits more democratic regimes, and Campante and Chor (2012), who examine empirically the conditions under which education promotes political participation.

This article is also related to Alesina and Reich (2015). They model public education as useful for its homogenizing effect, bringing citizens' preferences closer to elites'. In contrast, this paper considers the incentives to invest in public education when the homogenizing nature of education may actually be costly to a ruler, by facilitating political participation. This is consistent with empirical evidence that education favors political development. As in Alesina and Reich, however, public education may also serve as a political instrument. By using propaganda, a ruler can provide schooling while simultaneously minimizing the risk of uprising. A connected literature explores how the ideological content of education influences educational outcomes (Clots-Figueras and Masella, 2013; Meyersson, 2014; Carvalho et al., 2017). Also related is Fuchs-Schundeln and Masella (2016), who show that propaganda-based education in East Germany negatively impacted outcomes after reunification.

This paper relates in a more general way to the literature on non-democratic institutions. Like many in that tradition, this paper concerns the expansion of public goods in settings with self-interested elites (Myerson, 2008; Gehlbach et al., 2016). Finally, the model itself is inspired by other models of strategic information transmission (Crawford and Sobel, 1982; Kamenica and Gentzkow, 2011; Edmond, 2013).

2. Model

The model has two players: a ruler and a citizen. The ruler's type is $\theta \in \{0,1\}$, where $\theta = 1$ denotes a "benevolent" ruler who will choose policies that maximize social welfare, while $\theta = 0$ denotes a "predatory" ruler who will maximize his own rents. A ruler's type is private knowledge. The citizen's prior belief, $Pr(\theta = 1) = \pi \in (0,1)$, indicates the extent to which she has been socialized prior to attending school to *trust* the ruler.

After learning his type, a ruler first decides whether to invest in public education, $g_\theta \in \{0,1\}$. If he invests, the citizen then decides whether or not to enroll in a public school, $e \in \{0,1\}$. Let $y(e)$ be her education-contingent labor income. If she enrolls, she acquires human capital and her labor income becomes $y(1) = w + \alpha h$, where $h > 1$ is the *productivity effect* of education, and $\alpha > 0$.[8] Otherwise, she earns $y(0) = w \geq 0$. Human capital may also benefit the ruler down the line: once income is accrued, he imposes upon the citizen a lump sum tax, $\tau_\theta \geq 0$.

Public education provision also has political consequences. For instance, public schooling may expose the citizen to a larger peer network, enhancing her political efficacy via new social capital.[9] In the model, the citizen can become active in a *political club* while enrolled in school, a choice represented by $c \in \{0,1\}$. If she does, then she acquires the capacity to challenge a predatory ruler's choice of τ_0 after entering the labor force. However, joining a political club comes at the cost of time and effort that might otherwise have gone toward developing more productive inputs: if $c = 1$, then one unit of productivity is

[5] See Nie et al. (1996), Nie and Hillygus (2001), Plutzer (2002), McFarland and Thomas (2006), Campbell (2008), Quintelier (2008), Gardner et al. (2008), and Kahne et al. (2013).

[6] Bowles and Gintis (1976) argue that public schooling is informative of political and economic institutions not only in terms of its content but also in its organizational structures.

[7] For discussions of "backlash" and other disutilities from the character of public schooling, see Fouka (2016), Carvalho and Koyama (2016), Gradstein and Justman (2005), and Swee (2015).

[8] For algebraic simplicity, I treat αh as absorbing any direct private costs of attending school.

[9] See Gradstein and Justman (2000, 2002) and Helliwell and Putnam (2007). Also see the Online Appendix for a discussion of a two-citizen set up.