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ABSTRACT

The debate over whether political democracy is the least bad regime, as Churchill once said, remains unresolved because history has been ignored or misread, and because recent statistical studies have not chosen the right tests. Using too little historical information, and mistaking formal democratic rules for true voice, has understated the gains from spreading political voice more equally.

This paper draws on a deeper history, reinterpreting five key experiences to show how the institutional channels linking voice and growth are themselves evolving with the economy. Up to about the early nineteenth century, the key institutional link was property rights and contract enforcement. Since the early nineteenth century, the human-investment channel has assumed an ever-greater role. This trend will probably continue.

A telltale sign of damage to growth from elite rule is the under-investment of public funds in egalitarian human capital, especially primary schooling, relative to historical norms for successful economies.

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On the afternoon of November 11th, 1947, the Opposition leader Winston Churchill gave the House of Commons, and posterity, his famous defense of democracy:

No one pretends that democracy is perfect or all-wise. Indeed it has been said that **democracy is the worst form of Government except all those other forms that have been tried from time to time**; but there is the broad feeling in our country that the people should rule, continuously rule, and that public opinion, expressed by all constitutional means, should shape, guide, and control the actions of Ministers who are their servants and not their masters...."¹

In fact, Churchill was trying to *block* the advance of democracy on that November day. He was defending the power of the House of Lords to block measures advanced by a popularly elected government. The House of Lords was a hereditary old boys' club² that was not required, and not even allowed, to be elected by the people. Churchill was in the trenches fighting against a Labour government bill that would trim the number of years that the Lords could block a bill from two years to one year. Labour's purpose in attacking the Lords' slight remaining powers was to clear the way for nationalizing the steel industry, a controversial move that the Lords were determined to block. Our reading of subsequent history arouses at least some sympathy for Churchill's opposition to steel nationalization.³ Yet the fact

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remains that he was fighting for a rich hereditary elite against a popularly elected government. Churchill lost that battle, and democracy advanced another step.

So far we have two different Churchills on the subject of democracy's merits for the economy and civilization: The great orator endorsing popular democracy as the best we can do, and the conservative defending the last vestiges of hereditary elite power against the excesses of democracy. Actually, there was at least one other Churchill on the subject. This third Churchill demanded popular democracy as a means to achieve a righteous redistribution from landlords to the rest of society. As a young Liberal rabble-rouser on the election trail in 1909, this younger Churchill derided the House of Lords as "that home of the ancient British aristocracy." As he told a cheering Liberal Club dinner in Birmingham,

The powers of the House of Lords to impede ... are strangely bestowed... Posing as a chamber of review, remote from popular passion, far from the swaying influences of the electorate, it nevertheless exhibits ... a party spirit upon a level with many of the least reputed Chambers in the world.... It is not possible for reasonable men to defend such a system or such an institution.⁴

His reason for poking at the Lords and rallying the mass electorate was redistributive and revolutionary. Young Churchill was a leading land-tax Liberal, a temporary disciple of Henry George and an Ally of Lloyd George, demanding redistribution from landlords to workers and the poor.

To ask "Was Churchill Right?" is therefore to ask: "Which of the three Churchills was right -- the populist orator, the elitist Conservative, or the young redistributor?" Let us follow the populist orator, and ask about the economic side of his saying. Let us take the Churchill view to mean that more popular voice in democracy is better for economic growth over the long run. Is that a correct reading of history? Or did China's government raise its growth chances by crushing

democracy at Tiananmen Square? If superpowers and international agencies want to promote growth and fight Third World poverty, should they support full democracy, limited elite democracy, or firm autocracy?

As an aid to renewed exploration of such issues, this paper offers the following suggestions:

(1) Past attempts to judge the growth impacts of political regimes have used history too little, have mistaken democratic rules for true voice, and have focused on an overly narrow concept of property rights. This has led to an under-valuation of the importance of spreading political voice more equally over the whole population.

(2) Defining democracy less narrowly than in the past literature helps to reconcile these suggestions with five historical experiences that might have seemed to suggest negative effects of fuller democracy on economic growth.

(3) The institutional channels that link voice and growth are themselves evolving with the economy. Up to about the early nineteenth century, the key institutional link was property rights and contract enforcement. Since the early nineteenth century, the human-investment policy channel has assumed an ever-greater role. This trend will continue.

(4) A telltale sign of damage to growth from elite rule is the under-investment of public funds in egalitarian human capital, especially primary schooling, relative to historical norms for successful economies. Policies toward basic human capital formation are a key to the better growth performance of full-franchise democracies over either autocracies or (especially) elite democracies.

THE DEBATE OVER DEMOCRACY, INSTITUTIONS, AND GROWTH

Conflicting Views and Defective Tests

Those who have debated the effects of democracy on growth have divided into four camps: optimists, pessimists, neutralists, and agnostics. The neutralists and agnostics dominate right now, though I will argue that their dominance is based on our not having chosen the right empirical measures and the right tests.

Most optimists have shared Churchill's modesty about the case for democracy. The twentieth century has left many members, but few Panglossian Whigs, in this optimistic camp. A fair recent statement of muted optimism is Douglass North's 1990 statement that modern democratic society with universal suffrage is best, as Churchill said, but it's a poor best.⁵ The optimist belief that democracy promotes growth rests on a faith in universal suffrage and participation as the best way to keep high-level mistakes in check. Somebody has to warn and threaten the boss, and the more voices that speak out, the better -- yet this may not suffice to prevent serious mistakes. Optimists share the low expectations of Albert Hirschman, who argued that every organization, private or public, lapses into bad performance, and that a mixture of exit and voice is required to minimize the costs of its errors. Democracy is no cure, but it enhances the voice option, so that the best critics don't all exit.⁶

Pessimists fear that democracy lowers income and growth by yielding to demagogues and to demands for current consumption, in the form of aid to declining sectors, power to unions, and taxation for safety nets. Concerning the Second and Third Worlds, many writers have drawn a political corollary from Gerschenkron that impoverished countries could awaken and catch up only if autocrats suppressed consumption and transformed institutions from above, just as Imperial Germany and Russia did in the past.⁷

The twentieth century offers pessimists a lot of anecdotal support. Didn't the Weimar democracy give Hitler a plurality in 1932? Didn't fairly democratic Chile give a plurality to Salvador Allende in 1970, wrecking the economy within three years? Also gloomy is the more recent behavior of some so-called democracies in electing Lukashenko in Belarus, Kuchma in Ukraine, and similar economy-wreckers

in other former Soviet republics.⁸ The mid-1990s were a high tide for fearing the economic costs of such “illiberal democracies,” and applauding Pinochet, Lee Kuan Yew, and the other firm hands in control of newly industrializing countries.⁹

Neutralists feel that the net effect of democracy versus autocracy is zero. Adam Przeworski and co-authors conclude from a massive statistical study of 137 countries between 1950 and 1990 that

“there is no trade-off between democracy and development, not even in poor countries.... We hope to have put the entire issue to rest.... [T]he entire controversy seems to have been much ado about nothing.... [T]he recently heralded economic virtues of democracy are yet another figment of the ideological imagination.”¹⁰

The neutralist camp includes a series of statistical studies finding that there is no effect of switching between autocracy and democracy, although regime durability matters within either type of regime.¹¹ Neutralism also includes those who agree with Robert Barro and Niall Ferguson that growth is maximized by an intermediate amount of democracy, beyond which fuller democracy erases any net contribution to growth.¹²

Agnostics dismiss all past attempts to measure the growth effects of democracy as flawed and inconclusive, and with good reasons. Most of the tests fail to correct sufficiently for simultaneity bias and regime selectivity bias. The survival of political leaders and political regimes is itself endogenous, along with growth, education, and economic inequality. It will not do to test for the effects of, for example, democracy or inequality on the rate of growth without simultaneous-equation techniques that incorporate these feedbacks. Regime attrition also affects the apparent regime-specific rates of growth. Lacking such adjustments, the discerning reader of the statistical literature remains agnostic about whether democracy promotes growth.¹³ The statistical literature on democracy and growth

has failed to meet the requirements for a fair test, for even more reasons than the agnostics have given. A final section of this paper describes what better tests seem to show.

Growth versus well-being

For many issues, GDP per capita has proven its usefulness as a strong correlate of well-being. The issue of democracy and growth is different, however. Most obviously, freedom is valued for itself, and people in the past have given up large amounts of income for it.¹⁴ The obvious value of freedom itself is set aside here, to confront the tougher issue of whether income has to be sacrificed for it. Less dispensable, however, is the effect of political regimes on life expectancy. As the case of China's Great Leap has just reminded us, regimes must be judged in part by the deaths they hasten.

Even within the confines of GDP per capita, growth rates have been overused. As James Tobin warned when steady-state growth theory had its vogue, you can't eat rates. You can only eat levels. In the background here is the deceiving use of recent income levels as an exogenous control variable. Scholars, including this author, have used the rates and levels as equivalent in regressions that have controlled for past income levels. That works well enough for many purposes, but not if we need to appraise the impact of political regime history, which lasts for more decades than the income variable covers. The statistical literature on political regimes and growth hides much of the effect of regime history in the lagged income variable, as well as in fixed-country effects.

Which concept of democracy?

It is time for scholars in political economy to retreat from a sound scientific decision they have reached regarding the definition of democracy. To distance their

analysis from any hint of circular reasoning, some writers have insisted that democracy must be defined only in very narrow procedural terms, as a setting in which there are formal elections for the chief executive and a legislature, and there is at least some opposition. Explicitly avoiding any outcome dimensions such as “accountability,” “responsiveness,” “representation,” “equality,” or “civil rights,” or any social and economic sources of political privilege has kept this narrow procedural definition innocent of letting economic success define democracy. The resulting analysis soundly shows that this narrow definition truly has little or no effect on economic growth, within the confines of the chosen models and data sets.¹⁵

How wide is the audience that will accept this narrow result as the answer to their curiosity about the economic implications of “democracy,” a concept that has always meant governance by all adults?¹⁶ One can broaden the definition of who has political voice without plunging down the slippery slope into the circularity of asserting that democracy is partly defined by the economic success it fosters. We naturally expect that the greater the share of adults who have political voice, the more democratic is the polity. Yet scholars’ taxonomies of political regimes miss big differences in the share of adults who have any real voice. This is most evident in the indices that went back before World War II. For example, the Polity index rates the United States a perfect democracy, a “10,” from 1871 on, somehow missing the Jim Crow Laws altogether. Similarly, one would expect caste and the intimidation of opposition voters at election time to be reflected in any widely useful definition of democracy. Yet the procedural approach precludes recognizing such “social” dimensions of political voice, and therefore sees no difference in the political rights of Indians and Australians in the late nineteenth century.¹⁷ The current practice tends to dichotomize too much between full democracy and autocracy, perhaps because it has not sufficiently explored either pre-1950 history or the realities of political voice in Latin American and Asia today.

The narrow procedural categorization of democracy will leave historians unsatisfied. Most European countries extended the franchise in stages, “where

Freedom slowly broadens down from precedent to precedent,” and a main task is to sort out the causes and consequences of the transition from elite rule to democracy.¹⁸ In the history of the Americas the same difference between elite franchise and full franchise is at the heart of differences in schooling, income inequality, and economic growth. It seems to play a major role in explaining why the Southern states fell behind in the United States, why Costa Rica is so far ahead of Guatemala and El Salvador, and why North America pulled so far ahead of the rest of the Hemisphere.¹⁹

The leading indices of political regimes also miss the gender dimension of political voice. Even on strictly procedural grounds, one would want a concept of political democracy to be affected by the denial or granting of voting rights to half the adult population. Yet the historic shift to women’s voting rights clearly had no effect on Banks’s regime categories or on the Polity index of democracy -- at least not on the indices recorded for the United States, Canada, New Zealand, Norway, the Netherlands, or Switzerland. What purpose were the indices of democracy and freedom designed to serve, if denial of political voice to half the adult population has no bearing?²⁰

Finally, the current practice of classifying regimes focuses on the central national government alone. This practice would do little damage in an historical setting in which the key institutions are, and must be, centralized. Such was the case centuries ago, when most damage to economic growth came from the top, so that the Netherlands or England could shine just by having institutions that credibly limited the power of the king or prince. But in a world where local governments make the decisions that matter most to economic growth, the usual indices of democracy or autocracy may fail to explain why different countries and regions develop so differently. As we shall see, nineteenth-century Germany was one of the settings in which the central regime is unrelated to local policies that drove much of Germany’s growth.

WHICH CHANNEL OF INFLUENCE -- PROPERTY RIGHTS OR HUMAN CAPITAL POLICY?

The Property-Rights Channel

One of the keys to economic growth is surely freedom from confiscation of one's non-human capital. Scholars in economic history and political economy have linked governance to economic growth through the kinds of institutions that affect economic growth: property rights and the "rule of law." What Montesquieu and Adam Smith had intuited has become a well-articulated theory of institutional history by Douglass North, Mancur Olson, Barry Weingast, and their co-authors. As soon as either personal far-sightedness or revolutionary coercion makes some rulers pre-commit to enforcement of laws limiting their powers to confiscate and tax certain areas, those nodes of liberty develop cities, commerce, and industry. Limiting the ruler's power eventually strengthens the state itself.²¹

This explanation works especially well for earlier history, as one might have surveyed it from, say, Scotland in 1776. So filled was the world with myopic and rapacious rulers that any haven from confiscation could become a node of growth and prosperity. The panel tests of DeLong and Shleifer, and of Acemoglu, Johnson, and Robinson have shown that the property rights channel fits medieval and early modern history systematically, not just in separate case studies.²²

The same focus on the rule of law and property protection has now rightfully become a prescription often applied by international agencies monitoring the Second and Third Worlds.²³ It is also the basis for repeated use of investor-service indicies of "country risk," which measure corruption, confiscation, and default all over the world as indicators of property protection.

The Human Capital Policy Channel

Yet as the economy evolves, different productive inputs become more crucial. We have long known that economic development makes non-human property, especially land, less and less important to growth, while human capital becomes more important. The gradual shift toward an economy based on human knowledge and communication shifts the mix of assets that democracies and autocracies need to develop and protect. But sticking with the property rights of non-human capital, many scholars have under-emphasized the human-capital channel, the one rightly stressed in the EHA Presidential Addresses of Richard Easterlin and Claudia Goldin.²⁴ The evidence for this re-emphasis is compelling, and it means that advice to today's transition economies and developing countries needs to place at least as much emphasis on policies toward education and health as on the protection of non-human property.

The comparative growth literature assigns a strong role to educational attainment, even when the authors choose to downplay it. The Barro-Lee studies end up featuring educational attainment as a key determinant of economic growth.²⁵ The Clague-Keefer-Knack-Olson studies, while intent on showing the property rights channel, nonetheless show a significant influence of schooling on GDP per capita whenever they give it a chance.²⁶ And although Bils and Klenow have established that difference in schooling did not explain more than a third of growth differences in a narrow accounting sense, they nonetheless show the likelihood that there are at least some externalities from schooling that should supplement their measure of the growth influence of schooling.²⁷ The latest overall surveys of the issue still find a strong effect of schooling on growth.²⁸

That political voice strongly influences schooling and therefore growth is increasingly clear in recent comparative work by economic historians. Historical differences in the spread of suffrage go a long way toward explaining which countries' children got educated in the nineteenth and twentieth centuries.²⁹ Suffrage also had a systematic effect on the tax effort put into education finance

between the 1880s and the 1930s, a half-century in which some countries spread voting rights down to the lowest-income classes, while others either remained autocratic or kept political voice restricted to the top-income elite. The willingness to spend tax money on primary education was significantly greater in full democracies than in elite-vote limited democracies. In fact, the countries least willing to spend taxes on mass primary education were not the autocracies, but the elite-vote countries. The same was not true of public spending on university education, however, for which elite-vote countries and autocracies were about as willing to spend as were the full democracies.³⁰

What makes the link between broad suffrage and primary schooling so important is that the marginal growth effect of primary schooling is particularly high in less developed settings, such as the pre-1914 history of the now industrialized countries or the Third World today. In a well-governed country, the true social returns to schooling should be equated across levels of schooling, and equated with other rates of return throughout the economy. Failure on this front explains much of the underdevelopment observed both today and in the past.

We have strong indirect evidence that poor societies systematically under-finance primary education. The evidence is indirect because it is confined to so-called “social rates of return” on the attainment of a higher level of schooling. These rates of return are as encompassing as they can be, but some of the returns to education are still left out. For one thing, such rates of return can only capture the returns and costs of extra school years, not the returns and costs of raising the quality of schooling at each level. That is, they can show only the damage done by rationing schooling, not the damage from poor schooling. For another, they cannot measure the net external or inter-generational benefits of education, and are “social” only in that they include the public-budget effects of public financing and later tax collection from more educated adults. For what they are worth, however, those studies consistently show that the social rate of return on the extra (unattained) primary schooling is much higher in today’s Third World than either the marginal

returns on higher education in the same countries or the rates of return measured for any level of schooling in high-income countries.³¹

Under-investment in primary schooling reflects two defects at once. First, it reflects the usual imperfections of capital markets, which block low-income families from borrowing to educate their children, whose high later incomes could have repaid a loan at low prime interest rates. Second, it also reflects insufficient use of taxpayer funds to conquer this capital market imperfection. Given the pervasiveness of capital market imperfections and of external benefits from education, taxpayer effort on behalf of public education has been key to raising educational performance. For two centuries now, the global leaders in educational attainment, test scores, and human earning power have been countries that have relied on public funding at the primary and secondary levels. Tax money does not simply displace private or philanthropic funding.³²

The failure to equilibrate social rates of return suggests an elitist policy bias, one that sacrifices GDP growth and discriminates against those who would benefit from extra primary education -- particularly the poor, the rural, and females.

Some simple indicators can reveal an elitist bias in a country's educational policy, even without sufficient data to estimate rates of return. Compare that country's public-education expenditure and admissions patterns with those of high-income high-technology countries in the same era. The first fingerprint that an elitist bias would leave relates to the primary school "support ratio"

Primary-school support ratio =
(public funding for primary school per child of primary-school age)
divided by (GDP per capita).

Note that the school-age population here is an entire age group, not just pupils, in order to combine both support per pupil and the attendance or enrollment rate.³³ Such a support ratio will typically rise with GDP per capita. A country's

educational policy leaves such an elitist fingerprint, *Fingerprint #1*, if it has a lower support ratio for primary education than a typical country of the same income level, or a poorer country, in the same historical time-period. In such a case, this Fingerprint #1 means that the country is passing up some economic growth, either to keep powerful groups from paying taxes or to keep the masses unschooled as an object in itself. We will illustrate the use of this clue in the next section.

For the eighteenth and nineteenth centuries, this support ratio test is our best prima facie clue to an elitist bias in educational policy, one that sacrifices some economic growth. For the twentieth century, two other clues can support this one. The twentieth century brought a general rise in public support for education at all levels, in tandem with the shift toward greater and greater reliance on advances in knowledge and skills. Thus for the twentieth century, elite bias can also show up as relatively generous public funding for higher education, given that higher-income and politically privileged families typically have better access to that higher education. With taxpayers now subsidizing all levels of education and with greater data availability, we can use two other clues that suggest elite bias at the expense of overall GDP growth:

- Relative support ratio for higher education =
(public support for tertiary education per pupil)
to (public support for primary education per child of primary-school age),
- and Inequality of support favoring the best-off =
A direct measure of the concentration of public support for education into educating those with the highest levels of educational attainment, such as a gini coefficient or a share of subsidies received by the best-educated ten percent.

Fingerprint #2 is left when policy gives a higher relative support ratio for higher education than other countries with the same or higher average incomes.³⁴ Granted, it is conceivable that a poorer country might need to concentrate its education budget on training at the top, so that national leaders and teachers are trained first, before advances in schooling can trickle down to the masses. But the rate-of-return evidence, plus smoking-gun historical narratives of elite antipathy to mass school for its own sake, suggests a growth-sacrificing elite bias if *Fingerprint #2* is found. Similarly, *Fingerprint #3* show up whenever a direct measure of inequality of public funding favors the best educated groups, relative to typical practice in leading countries. The calculated social rates of return are lower for tertiary education than for primary, and there is no clear externality argument in favor of subsidizing higher education more than primary education in a lower-income setting.

Aided by these clues to growth, we now turn to reinterpreting growth effects of political voice, and the relative importance of the property rights and human capital channels in conveying those effects. I have selected five settings in which prevailing opinion seems to have underestimated either the case for democracy, or the damage done by elite rule on the education front, or both.

FIVE REINTERPRETATIONS

Britain as Leader and Laggard

When did Britain lead the world in democracy, and through which channel did it stimulate growth? The conventional answer is that from 1688 or earlier until World War I British democracy shone because it supported private property rights, and because its landed elite was willing to accommodate industrialization. While the conventional stories are partly correct for the early modern era, the property

rights story has been undergoing revision, while the downside of undemocratic Britain's fiscal and educational policy needs more attention.

The conventional tale is that Britain took off after 1688 thanks to the Glorious Revolution's putting constitutional limits on the throne's ability to cheat creditors and impose sudden taxes. Once Parliament became the supreme budgetary authority, private businesses and holders of government bonds both felt more protected. Private capital accumulation blossomed, and the state was able to fight wars more effectively because it was more credit-worthy and levied more predictable and acceptable taxes.³⁵

Subsequent scholarship has reinforced the variant relating to government creditworthiness, but not the role of 1688 in supplying cheaper loans for private capital formation. Gregory Clark finds that the Glorious Revolution had no visible effect on private interest rates, which were trending slowly downward long before and long after 1688. On the other hand, he does find that 1688 lowered the interest rates on the public debt of the newly constrained government. Unable to repeat default episodes like the 1672 Stop of the Exchequer, the throne credibly pre-committed to loan repayments, cutting the interest rate it was charged.³⁶

If the only clear improvement in property rights springing from 1688 was an improvement in royal creditworthiness and perhaps in the efficiency of British taxation, what are we to do with the argument that the Revolution in 1688 protected creditors lending to Britain's private industrialists and sparked the Industrial Revolution? The issue needs further exploration. We must consider the possibility that improvements in English private capital supply were a much more gradual affair, extending back to the middle ages, and improving slowly ever since. It appears that real interest rates were declining persistently, if not monotonically, from the 1251-1350 century to around 1900, not only in England but also in France, Flanders, Germany, Netherlands, and Italy. Perhaps the story of improving capital supply, presumably helped by improvements in private property protection, is a

story to be told for much of Western Europe over six centuries, not a tale of a few constitutional triumphs.³⁷

Against the gains in British property rights and public finance we must weigh the long-term costs of the bias of British politics toward the landed elite in the eighteenth and nineteenth centuries. Granted, there are ways in which the landed interest made its accommodation with liberalism and industrialization, helped by its being a heavy urban landowner. In the final telling, we will still agree with the judgment that the landed elite made this accommodation more smoothly in Britain than elsewhere.³⁸ Still, scholars have under-emphasized several ways in which it actually *checked* Britain's industrialization and growth. Perhaps with taxation as with early British elite democracy, we tend to give early British fiscal institutions too much credit because other countries' institutions were even worse in those days.

The anti-growth side of landed elite power left some of its fingerprints on Britain's fiscal structure. The usual revenue calculations overlook ways in which Britain taxed the advancing modern sectors. Any telling of the story of secure British property rights should factor in the heavy stamp duties on commercial, legal, and financial services. By the period 1815-1841 these taxes on such documents as property and contract records had risen to claim 12-15 percent of government revenue, more than the taxes on land and income. Any story of elite accommodation to industrial capital and to the spread of knowledge must also confront the duties on glass, windows, bricks, paper, and candles as well as those stamp duties.³⁹ We must also remember that customs duties on imports, which were between 22 and 40 percent of government revenue throughout the period 1700-1870, discouraged exports of manufactures, and therefore manufacturing production, for the simple reason that in the long run any tax on foreign trade restricts both imports and exports.

The Corn Laws made that tax system even more regressive and anti-industrial. Using simple "flypaper" calculations of tax incidence might seem to show that the tax revenues took a bigger share of consumption from the landed rich than from others.⁴⁰

Yet the usual calculations of the tax revenues paid directly by the different classes miss a major fiscal redistribution from workers and the poor, and from industrialists, toward the landed interest. Britain's Corn Laws raised the price of grain and basic foodstuffs, drawing resources back into agriculture at the expense of industry -- yet they are almost invisible in the government revenue accounts because they were designed to be virtually prohibitive in the 1765-1792 and 1815-1843 eras. To make wheat expensive was also to make bread expensive, raising the cost of living for the landless masses. Statistical regressions suggest that the Corn Laws raised workers' living costs by seven percent in the 1770s-1780s, and by 8-14 percent in 1820-1845. Any reckoning of the fiscal policies of Georgian and early Victorian England must consider these long episodes of policy-induced food scarcity, hurting both industry and the poor.⁴¹ The only interlude of truly progressive taxation in the era of landed dominance was the French War era 1793-1815, which included a temporary income tax. But as soon as the war was over, this was repealed and the records were burned.

Turning to the education channel, some might expect that Britain fits the current theme well because Britain was a leader in both democracy and schooling. Britain does indeed fit the theme well, but on an opposing note: Britain was a *laggard*, both in democracy and in schooling. In terms of democracy, it was not until the 1880s that half of the adult male population could vote, a lag of decades behind North America and France.⁴² In terms of schooling, both the enrollment figures and the expenditure figures imply that Britain fell behind by mid-century or earlier, and did not begin to catch up to the leaders until after the Fees Act of 1891 provided the taxpayer support that was already provided in other countries.⁴³

The public expenditure figures supply us with that "Fingerprint #1" of elite bias in education policy, as shown in Figure 1. The lag of Britain in public support for primary schooling can be seen in Figure 1 by comparing the support ratios on the vertical axis either for the same years or for the same Maddison-estimated level of real GDP per capita. As the fingerprint test requires, British taxpayers supported primary education less than did some countries with lower average incomes in the

same historical era. While the underlying political explanation is complicated, with the education issue getting mixed in with religious and constitutional issues, the nineteenth-century debate identifies aristocratic Tories, the Church of England, and the House of Lords as groups consistently reluctant to have taxes paid to give the broad mass of children a competitive secular education.⁴⁴ By holding back public mass education, Britain's still-elite franchise in the early and mid-nineteenth century held back Britain's relative skills and GDP per capita for a few decades.

[Figure 1 about here.]

Thus the early lead and later lag in British political freedoms seem to have altered the timing of British superiority, pointing away from the eighteenth and nineteenth centuries. Britain led in freedom and living standards before 1688, along with the Netherlands. Britain began slipping in ways better traced back into the nineteenth century, not concentrated in the twentieth. We are better prepared for these reinterpretations of Britain's glorious era if we have studied the changes in economic historians' best estimates of Britain's growth rates in terms of GDP per capita. The United Kingdom's growth rate per capita fell behind that of the Americas and Australasia already in the 1820-1870 period, and behind most of Europe as well during the 1870-1913 period.⁴⁵ Furthermore, the estimates by Crafts and Harley and by Clark show even lower rates of growth between 1700 and 1830. Britain was already more advanced by 1700 than we had realized. British institutions shone best in the earlier era up to the eighteenth century, when the rest of the world was still generally mis-governed. Elite rule had its anti-growth side in the eighteenth and nineteenth centuries.

The Germanies

How does the delayed rise of Germany as an economic power illuminate the relationship of political voice to economic growth? We are usually given two different stories, one for Germany before Napoleon invaded, and one about the nineteenth-century rise of Prussia and unified Germany. Neither story deals effectively with the role of private property rights or of education.

The diversity of the Germanies has posed serious problems for the interpretation of the growth effects of German governance. Was the political fragmentation of Germany before the nineteenth century good or bad for economic growth? One might have imagined that small principalities would compete as tax havens, just as cities did elsewhere in Europe. Yet the pioneering attempts at comparative classification of regimes and property rights up to the early nineteenth century have retreated to treating all of Germany as an area uniformly ruled by unconstrained rulers, with no protection for private capital, as if Germany were no different from Albania or Sicily. Germany thus becomes a tale of poor growth under local despots until the early nineteenth century.⁴⁶

What happened next to governance and growth, during the nineteenth-century rise of Prussia and unified Germany? A different literature takes over, telling us that equally absolutist monarchs promoted economic growth from above, without any new constitution constraining their power. How could the absolutism switch from being bad to being good for private capitalism and economic growth? And how was the strong growth achieved? The Gerschenkronian story of state and bank control is inconsistent with Germany's never having achieved as cheap a supply of capital as Britain or France.⁴⁷

To get the effect of German governance right, and to choose the right institutional channel for its growth effects, we must first remember how Germany excelled in the nineteenth century. The one clearly outstanding source of growth for which the world envied nineteenth-century Prussia and Germany was its pioneering system of mass education. Unfortunately, this source has also been mishandled. Seeing an autocratic monarchy and a world-leading educational system, scholars

have linked the two in an unsatisfactory ad hoc manner. Falling into a trap set by this simple correlation and by the overuse of statutory history, they have argued that the imperial state-building of the Prussian and German empires fostered education because, well, it would make the state stronger -- leaving us to wonder why the Austrian, Russian, Turkish and other empires concluded that their ambitions required *suppressing* mass education.⁴⁸

Yet the "absolutist" central government in Prussia and Germany had yielded control of educational finance and development to localities right after the humiliating defeat by Napoleon.⁴⁹ Control from above consisted of little more than periodic conservative edicts about curriculum and patriotism, plus pay scales for teachers. Schools were funded locally, by local appointees, with the result that tax-based primary education flourished where the local demand was already stronger in the late eighteenth century, namely in cities and toward the north and west. Where Junker power and state funds were most evident, in the rural east, the least school funding and the lowest graduation rates obtained, despite an imperial policy of wanting to Germanize the Poles in school. The pattern in the smaller non-Prussian states was similar.

The most promising way to resolve the puzzles of governance and growth in the Germanies is to recognize that limited local freedom promoted growth through the education policy channel, starting in the urban north and west in the late eighteenth century and early nineteenth. The most conspicuous source of Prussian and German growth was the source that the undemocratic central governments did not control. In this decentralization of control over the amount of schooling to provide, the Germanies were like North America and unlike Britain, where Parliament retained direct control of education throughout the nineteenth century.

India's Backward Democracy

Above all, our understanding of the relationship of political voice to economic growth must come to grips with the fact that the world's largest

democracy is one of the world's poorest nations. Since independence, India has had a higher democracy index than France. Why is India's average income still so low, even among developing countries?⁵⁰

Adding to the puzzle is that fact that India's property-rights institutions are also not bad in investors' eyes, relative to those of other developing countries. Granted, on the corruption front, some of the international ratings put India worse than the average developing country, and lately even worse than China. Yet even without a good corruption score, India in the 1990s ranked above the average developing country in overall "rule of law and business environment," and ranked even above the world average in the categories "law and order," "property rights and rule-based governance," and some government-efficiency indicators.⁵¹ If democratic India's general business environment is so acceptable, we have even more reason to wonder why India is so poor.

To make headway on this deep puzzle, let us begin with the 1990s evidence that India policy undersupplies primary education while being much more generous at higher levels. This will establish that the human capital channel is the main conduit from institutional problems to low incomes in India's case. The clarity of these current symptoms will at least help us begin the search for historical sources.

At the start of the 1990s, as India was beginning to emerge as an exporter of software and other highly skilled services, almost half of Indian adults -- 36 percent of men and 61 percent of women -- were illiterate. A consensus of in-depth studies has found a serious distortion of Indian public funds in favor of higher education at the expense of mass primary education.⁵² For example, the World Bank in 1992 was clear in its recommendations for Indian educational policy:

The aggregate level of public spending on education is probably adequate.... But some changes are called for in the allocation of those resources. In particular, more spending should be allocated to primary education, mainly to improve its ability to retain students.... The shift in funding in favor of

primary education can be achieved by increasing the contribution of private financing in higher education.... The structure of enrollments and financing arrangements result in a distribution of public spending that is skewed toward the privileged.⁵³

India's anomalous educational policy stands out in an overall Asian perspective. Table 1 exposes all three of those elitist fingerprints in educational policy. First, the support ratio for public primary education, that same measure used in Figure 1 above, was lower for India than for any other of these ten Asian nations except India's immediate neighbors, Bangladesh and Pakistan. The next two fingerprints, the ones showing the relative generosity of taxpayer support for higher education, confirm that the problem is not just meagerness of public funds. Only Bangladesh is more biased in favor of the highest educated on all counts. India's policies seem to tilt away from primary education, by any regional or global standard. To these three fingerprints, one could add that the Indian teaching profession at all levels has been dominated by males, again more so than in any other non-Muslim Asian nation other than Nepal and Cambodia.

[Table 1 about here.]

India's lack of commitment to primary education manifests itself in huge class sizes, teacher absenteeism, and high drop-out rates. The problem is worst in India's "heartland" states, Bihar, Orissa, Uttar Pradesh, and (until the late 1990s) Madhya Pradesh. In the village of Palanpur in western U.P. in 1983-4, a single teacher was responsible for carrying out the national mandate to educate all children of ages 6-10. There were 158 such children.

[T]he most notable feature of the village school is that it has more or less ceased to function. The root of the problem is fairly obvious. The single

teacher [upper-caste son of the village headman] has a 'permanent' post, and his salary, which is quite high by local standards, is effectively unrelated to his performance.... [H]e has little incentive to exert himself.

In 1983-4, the village teacher was taking full advantage of these circumstances. More often than not, he did not even take the trouble of coming to school at all. When he did, he would be accompanied by ten or twelve children at most, mainly sons and daughters of his own close relatives.... This did not prevent him from cheerfully entering 135 names in the school enrollment register.⁵⁴

It is also in these poorer heartland states that secondary and higher education seems to have been supplied most abundantly in recent decades. In 1966, for example, the Lucknow *National Herald* voiced its suspicions by noting that India's poorer heartland states had a higher share of high school students going on the university than Britain, France, Japan, or India's better-off southern states. One underlying factor seems to have been the entrepreneurial opportunity to create new high schools and colleges as a political base and cash cow for siphoning government grants at low cost. Running a primary school, which was handed down to village-level *panchayat* rule in the 1950s, is less lucrative, though it is still an opportunity to solidify a local partisan political base.⁵⁵

How could decentralized democracy fail to reform such policy failures, decade after decade? If everybody really had voice in India, one would have to conclude that democracy indeed failed to promote growth through the education channel. The only way to save Churchill's defense of democracy from this indictment would be to show that India is not the full democracy that its franchise rate would suggest. That is, one would have to show that much of the Indian population has been systematically excluded from having any real voice in tax and educational policy. One should also show evidence that the lack of full democracy was greater in those heartland states where the education policy failure was greatest.

Even though nobody has put the whole chain of argument together yet, there is at least a *prima facie* case that political voice in India has been highly restricted and disproportional, despite the holding of full-suffrage elections. As an invitation to the fuller research effort this historical subject demands, my task is to note some clues that political voice has always been denied to the lower income groups, castes, and tribes, particularly in the heartland states, and that this appears linked to elitist education policy.

The first clue is that the symptom itself, an educational system designed for the elite, has been a feature of India's history at least back to Thomas Babbington Macauley's infamous Minute on Indian Education in 1835.⁵⁶ Granted, every generation of British and Indian leaders in the twentieth century gave lip service to free public education for all. In the transition to Indian provincial autonomy the 1930s and 1940s, most provinces passed compulsory education laws. But in the absence of funding and enforcement, these were no more effective in India than in any other polity where unfunded compulsion tried to precede the private demand for mass schooling. The gap between grants per university student and subsidies per primary student apparently even widened under provincial autonomy in the 1930s and 1940s. Gandhi and the Congress Party leadership continued the rhetoric, but declined to provide the funds needed for the daunting task of conquering illiteracy. Gandhi himself added to the problem by demanding that alcohol could not be legal, and therefore not taxed for schools and other programs, and by refusing to abandon his scheme for 'self-supporting' education in which illiterate children would learn all they needed to know by working at menial jobs.⁵⁷

Both in the transition to independence and since 1947, political voice in India was limited, first in law and then in practice. The differences in democracy among Sri Lanka, India, and Pakistan were already evident in the 1930s. Britain gave Sri Lanka universal adult suffrage in 1931, only a few years after the last restrictions on women's suffrage were removed in Britain itself. Provincial elections were held under this new franchise in 1931 and 1936.⁵⁸ In India, by contrast, the Montague-

Chelmsford reforms approved by Parliament in 1919 extended the suffrage only to include more property-taxpayers, persons with educational qualifications, and landholders. The landless and urban workers were still not included; in most municipal areas the electorate was about 14 percent, and in rural areas it remained a tiny 3.6 percent.⁵⁹ For its part, the Muslim League wanted little to do with democracy.

The differences in franchise and voting persisted into the Independence era. Voter turnout in Sri Lanka rose from 55.8 percent of the electorate in 1947 to 76-78 percent in two elections of 1960, to 86.7 percent in 1977. By contrast, in India it rose only from 46.6 percent in 1952 to 60.5 percent in 1977, and dropped back to 57.0 percent in 1980, even though the legal franchise share had risen from 55 percent to 99 percent across the 1960s and 1970s, and Pakistan has remained autocratic.⁶⁰ These differences correlate with Sri Lanka's much better performance in primary education, though not in higher education, than either India or Pakistan. And within India, the voter turnout rate again correlates with the relative development of primary education and average incomes. Voting, primary schooling, literacy, and income all continue to be higher around the rim, in the South, Punjab and Haryana, and lower in the heartland states of Bihar, Madhya Pradesh, Rajasthan, and Orissa.

What mechanism might have linked limited political voice with the discouragement of primary education? We know that single-member pluralities, like the electoral institutions of India and the United States, create a bias in favor of the largest and longest-organized political parties. The Congress Party was given decades of clear primacy among political parties during its leadership of the Independence movement. In the first thirty years of Independence its leadership was hard to dislodge, and it won a majority of seats despite never capturing a majority of votes.⁶¹ Once Congress's educational policy had set the favoritism for higher educational into the five-year plans, no lower-class or lower-caste opposition could easily overturn that policy. Voice was effectively restricted by history and by political institutions. One could view India under the "Congress Raj" as a case of

Mancur Olson's institutional arteriosclerosis. Political elites became increasingly entrenched, and institutions were frozen in practice. In India's case, that transition may have secured the power not only of the well-off in the heartland states, but also of teachers as a tenured lobby against parental voice, competition, and reform.

Yet surely a bedrock of political exclusion in India has been its tradition of caste, tribe, class, and ethnicity. No matter how full the franchise or how much power has devolved to provinces and to village *panchayats*, even the most local rule seems to remain concentrated into long-organized groups. For its part, the central government had tried to equalize power with affirmative actions giving the "backward classes," "scheduled castes" and tribes not only job quotas, but even reserved legislative constituencies. Yet control over taxes and especially education remains largely provincial, an arrangement that appears to have perpetuated the handicap of primary schooling for the disadvantaged groups and the heartland states.⁶² Tentatively, the answer might be that the world's greatest democracy fell behind because it was not much of a democracy in ways that were crucial for education policy. In this respect, twentieth-century India may have been the mirror image of nineteenth-century Germany: an ostensible democracy that failed to be democratic on the education front, as opposed to an ostensible autocracy that led the world in locally initiated education.

Asian Tigers, Crippled Dragon

Lee Kuan Yew is justly proud of Singapore's growth and prosperity under his rule. Singapore has developed both of the institutional channels featured here: protection of business property rights and heavy subsidies to education. Lee has extrapolated from his success to become a leading spokesman for autocracy in troubled settings like postwar East Asia. For Lee, recent Asian history shows that autocratic capitalism is far superior to democracy:

“The regime in Beijing is more stable than any alternative government that can be formed in China. Let us assume that the students had carried the day in Tiananmen [Square] and they had formed a government... What kind of China would they have today? Something worse than the Soviet Union. China is a vast disparate country; there is no alternative to strong central power.”⁶³

But if Lee is right that autocracy works best within East Asia’s different culture, it is well to compare all the experiences within that region. Is democracy a drag on growth within East Asia, stretching from Mongolia to Indonesia, and from Myanmar to Japan? Lee’s critics are correct. If one surveys performance from 1960 to 1998, the region’s overall experience shows a positive, not a negative, correlation of democracy and economic growth. Omitting Japan or communist regimes does not reverse this result.⁶⁴ The only way that one can cast Asian autocracy in a good economic light is to be extremely selective. Lee Kuan Yew has not seen fit to comment on the smooth transitions to democracy in Korea and Taiwan. Basically, his hypothesis is based on a self-congratulatory contrast of successful Singapore and (pre-democratic) Taiwan with anybody growing more slowly under a different regime.⁶⁵

No defense of autocracy should be allowed to block our view of the greatest peacetime policy disaster of all time, Mao Zedong’s Great Leap Forward. The best estimates are that his policies of communization and rigid controls over food distribution costs killed between 16 and 30 people between 1958 and 1961, more than the best guess of about 7 million in the Soviet famine engineered by Stalin in the early 1930s.⁶⁶ These deaths and the related suffering, which were concentrated in food-surplus areas, were definitely linked to the issue of democracy versus autocracy. By 1958 serious criticism, or even scrutiny, of Mao’s policies was effectively ended by the “Hundred Flowers” trap, in which he first called for criticism from below and then persecuted those who gave it. No effective voices

could challenge the Great Leap, even as its horror became obvious. Soon after the famine, Chairman Mao himself, without referring explicitly to the famine, seemed to draw a lesson about the need for “democratic centralism” when addressing about 7000 cadres:

“Without democracy, you have no understanding of what is happening down below; the situation will be unclear; you will be unable to collect sufficient opinions from all sides.”⁶⁷

We must all strive to learn from Chairman Mao. He himself did not learn, however, and soon imposed the Great Proletarian Cultural Revolution to purge critics, both real and imagined. Education virtually halted for a few years. Amartya Sen has plausibly drawn the larger lesson that major famines are unlikely to occur under true democracies, when all adults and a free press are able to speak up.⁶⁸ Having a global market for food does no good if the autocrat blocks all access to it.

The frequent mishandling of the China case illustrates a larger drawback of the recent scholarship on democracy and growth since 1950. Virtually all of it uses as its sample a *single cross-section* of nations, or at best a time-shallow pool. This makes it impossible to distinguish between the effects of any featured variable, say democracy or property rights, and that dark unknown called “fixed country effects,” a compendium of our ignorance about forces that may be unique to each nation. Worse yet, the cross-sectional approach throws away the historical clues offered by major regime changes in this last half-century. For China, as just noted, Mao and his capitalist successors are lumped together. For Chile, scholars have thrown Frei, Allende, Pinochet, and the democracy of the 1990s together, hoping to learn something from the average of all regimes. For Korea, five major switches between democracy and autocracy occurred since 1953, again obscuring the political meaning of any overall average performance.

The Welfare State: Not a Channel

Finally, how does the broader comparative history judge that third Churchill, the young Liberal who wanted full democracy because it would redistribute from landlords to pensioners and the workers? The conventional answer today is that full democracy threatens to drag down economic growth through taxes and transfers that stifle initiative.

What comparative quantitative history seems to show, however, is that nothing flows through this channel. Even though fuller democracy probably raises transfers,⁶⁹ there is no clear effect of extra transfers on GDP, despite widespread suspicions to the contrary. All kinds of empirical studies, as opposed to theoretical modeling exercises and simulations, show that while excessive taxes and transfers could lower GDP, they did not do so in the high-budget welfare states. I have called this the “free-lunch puzzle” of the welfare state.

For this there seem to be two related reasons. First, the welfare-state democracies have designed many of the transfers so as to promote health and to minimize work disincentives. Second, the democracies that choose high-budget welfare states have also chosen tax mixes that actually lighten the burden of average and marginal rates on saving and investment for given average tax rates. Thus the economic risks of redistribution were not manifested in the history of the industrialized OECD countries.⁷⁰

TOWARD BETTER TESTS: FITTING ECONOMETRICS TO HISTORY

We need not rely solely on such historical narratives to make the basic point that recent statistical studies have missed the strength of the voice-growth link. Even if we wear some of the blinders of the recent analyses confined to the data-set club experiences, we get a more positive answer to Churchill’s question just by

fashioning tests that get the feedbacks and the historical timing right. The few key requirements are these:

- (1) a panel of experiences in which the distribution of voice differed greatly over both time and space;
- (2) more information on the distribution of voice than the mere procedures of executive and legislative power can reveal;
- (3) careful thinking about the long lags that identify how political regime history and GDP growth interact with each other; and
- (4) special attention to human capital policies, especially public schooling.

A particularly good set of historical experiences for illuminating this whole causal structure is era from the late eighteenth century to the early twentieth, in which full-franchise democracy emerged in some countries, fail to emerge in others, and died in still others. While the global sample since 1950 offers similar richness, the earlier history gives us better data on a measurable dimension of political voice not yet quantified for most of the postwar Third World, namely the share of adults whose ballot box choices really mattered. A sample of 24 countries supplies the necessary richness of experience, and of franchise and voting data for the democracies among them, from the 1880s through the 1930s.⁷¹ It includes an even split between democracies and autocracies, with movements in both directions between these types of regimes.

The sample needs to include long lags. Political regimes are subject to processes of selection and overthrow that respond to earlier political history and current economic and social conditions. The growth of GDP, in the spirit of Barro and other contributors to the econometrics of global growth, depends on earlier backwardness of the country, and on the educational attainment of the adult labor force, which is itself an accumulation over earlier decades. And government policy toward education, which will affect later economic growth, is itself a response to recent political and economic history. I have chosen a time span between

observations that allows these forces to work themselves out. While an earlier paper used decades, here I use eight-year intervals between observations. The observations span as much history as the data frontier will allow. Thus the time dimension of the current historical sample runs consists of eight benchmark years spaced eight years apart: 1881, 1889, 1897, 1905, 1913, 1921, 1929, and 1937. This particular choice allows us to view World War I as an event between benchmarks, and also includes the fascist takeovers of Italy, Germany, and Austria.

This set of 192 historical experiences allows us to identify a causal structure with three sets of equations.⁷²

First, the political regime, represented by an autocracy index and the franchise share among democracies, is a function of its own previous history over 24 years, and of recent levels of GDP per capita, urbanization, schooling, the state of the global economy, and whether the country recently lost a war. The autocracy index ranged from zero, for democracies and for benign autocracies such as Norway 1898-1913, to 9 or 10 for Mussolini's Italy, Nazi Germany, and Thailand. Autocracy was something close to a random walk, depending mainly on its own value eight years earlier, though autocracy was also checked somewhat by the experience of fuller democracy 24 years earlier. Among democracies, the extension of the franchise not only depended on its own earlier history, but was also raised by higher recent income levels (the Lipset effect), and by the embarrassment of recently losing a war, as in France shortly after 1873 and Austria and Weimar Germany after World War I. The rate of voter turnout behaved similarly to this share of the population enfranchised to vote.

The education channel is charted by a second set of equations, sorting out the determinants of public primary, public secondary, and total university enrollments per child of the 5-14 age group. To judge the role of political voice, we must first give other determinants of public enrollments their due.⁷³ A higher level of GDP per capita, lagged 8 years, clearly raises primary-school and total enrollments. A more crowded school-age cohort, represented by the share of children 5-14 in the total

population, depresses enrollment rates at all levels, presumably because it receives less resources per child. A dominant Catholic Church cut primary school enrollments by 419 students per 1000 children 5-14, other things equal, though it did not cut secondary or university enrollments.

Four different kinds of political regime between the 1880s and the 1930s left their contrasting fingerprints on education, fingerprints like those we have seen in Figure 1 and Table 1. The four types to be distinguished here are firm autocracy (e.g. Mussolini's Italy, Nazi Germany, and Thailand), benign autocracy (e.g. Norway 1898-1913), elite democracy (e.g. Britain up to the 1880s), and full-voiced democracy (Switzerland, North America, Australasia). Of these four, the two extreme groups provided more primary education, other things equal. Both the firmer autocracies and the full democracies committed more public resources to primary education relative to the alliances of tame monarchs and elite classes in the other two settings. Secondary and higher education were another matter. The full democracies tended to provide fewer resources here, other things equal. Granted, twentieth century North America led the way in public secondary education, but the regression results imply that this is explained well enough by higher incomes and the lack of a dominant religion.⁷⁴

The overall effects of political regimes on growth flowed through all the historic channels of institutional influence, not just the education channel. Once one has given due credit to the state of the world economy and the country's own degree of backwardness, firm autocracy had a negative growth effect, even if it did not retard education. Presumably the usual property-rights effects explain much of this clear result. Among the other kinds of regimes, we find no clear net differences in the growth effects of benign autocracies, elite democracies, and full democracies. While their styles of education policy differed greatly, the net growth effect was similar. All presumably benefited from their superior property rights, which full democracies supplemented with more primary schooling and less higher education.

CONCLUSION

All three Churchills were right about one thing, says the partial evidence assembled here. The average democracy has been better for economic growth than the average autocracy, at least in the formative years before World War II. Perhaps Lee Kuan Yew is the exception that proves the bad-autocracy rule he tried to deny. When it comes to wrecking economies, the tyranny of the majority over the voting minority, popularized by our reading De Tocqueville, may have been no match for the tyranny over those with no voice at all.

Among democracies, which of the three Churchills was right? Was the elitist House of Lords democracy that Churchill the conservative defended in 1947 economically superior to the full-voice democracy endorsed by the other two Churchills? As far as GDP per capita is concerned, they appear to have played to a tie in those formative years before World War I. Yet their policy styles and their distributive consequences differed. Compared to elite democracies, fuller franchises delivered similar growth benefits, and probably greater equality, through primary schooling and other public investments that the younger Churchill campaigned for in 1909. Britain missed this opportunity in the nineteenth century, when mass primary schooling was crucial, but Britain caught up in the twentieth.

As history and modernization evolve, the economic benefits of democracy also evolve. Back in the seventeenth century, the net benefits might have centered on private rights to non-human property, for which an elite democracy might have sufficed. But as the importance of human skills and individual decision-making discretion grows, autocracy may obsolesce, just as the gains from slavery obsolesced.⁷⁵ This likelihood was well expressed by a head of state who, like Churchill, offered a summary defense of democracy when he was out of office. Korea's Kim Dae Jung, rebutting Lee Kuan Yew, sees a natural evolution toward electronic democracy:

The Asian economies are moving from a capital- and labor-intensive industrial phase into an information- and technology-intensive one. Many experts have acknowledged that this new economic world requires guaranteed freedom of information and creativity. These things are possible only in a democratic society. Thus Asia has no practical alternative to democracy; it is a matter of survival in an age of intensifying competition. The world economy's changes have already meant a greater and easier flow of information, which has helped Asia's democratization process."⁷⁶

If Kim is right, the human-capital channel may have already become the most important institutional link between political regimes and economic growth.

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Table 1. Three Fingerprints of Elite Bias in Education Policy - India versus Other Countries in the mid-1980s

	Fingerprint #1 (below-average values suggest elitist bias)	Fingerprint # 2 (above-average values suggest elitist bias)	Fingerprint #3 (above-average values suggest elitist bias)		
	Public primary expenditure per child of primary-school age as a % of GDP/capita <u>mid-1980s</u>	Public tertiary-education expenditures per pupil / public pre-prim. + primary expend. per child of <u>primary-school age</u>	Mid-1980s inequality of public funds among students ranked by educational attainment	For 10% <u>Gini</u>	Memorandum: GDP/capita <u>per Maddison</u> for 1985, in 1990 \$,
				<u>best-educated</u>	
Bangladesh	3.4	83.3	.82	72.0	577
China	7.9	25.2	.44	31.0	1522
India	5.4	36.8	.66	61.0	1079
Indonesia	13.7	6.7	.27	21.0	1972
Korea, Repub. of	12.7	5.6	.16	13.0	5670
Malaysia	14.0	13.6	.38	32.0	4157
Nepal	7.0	35.5	.57	54.0	713
Pakistan	4.0	31.8			1400
Philippines	5.8	8.7	.19	14.0	1964
Singapore	8.4	7.7			10896
Sri Lanka	6.2	13.4	.33	28.0	2234
Thailand	13.7	2.9	.33	23.0	3054
Papua New Guinea	19.8	53.0	.62	54.0	3497a
Ten Asian nations	8.5	17.5	.43	36.3	
Japan, 1995	17.3	0.9			15332
United States	15.7	1.4			20717

OECD average, 1988 **17.3** **2.0**

Sources and notes to Table 1:

a = From Penn World Tables 6.0, not from Maddison.

The sources are Unesco, *World Education Report 1998*, and Tan and Mingat, *Education in Asia*.

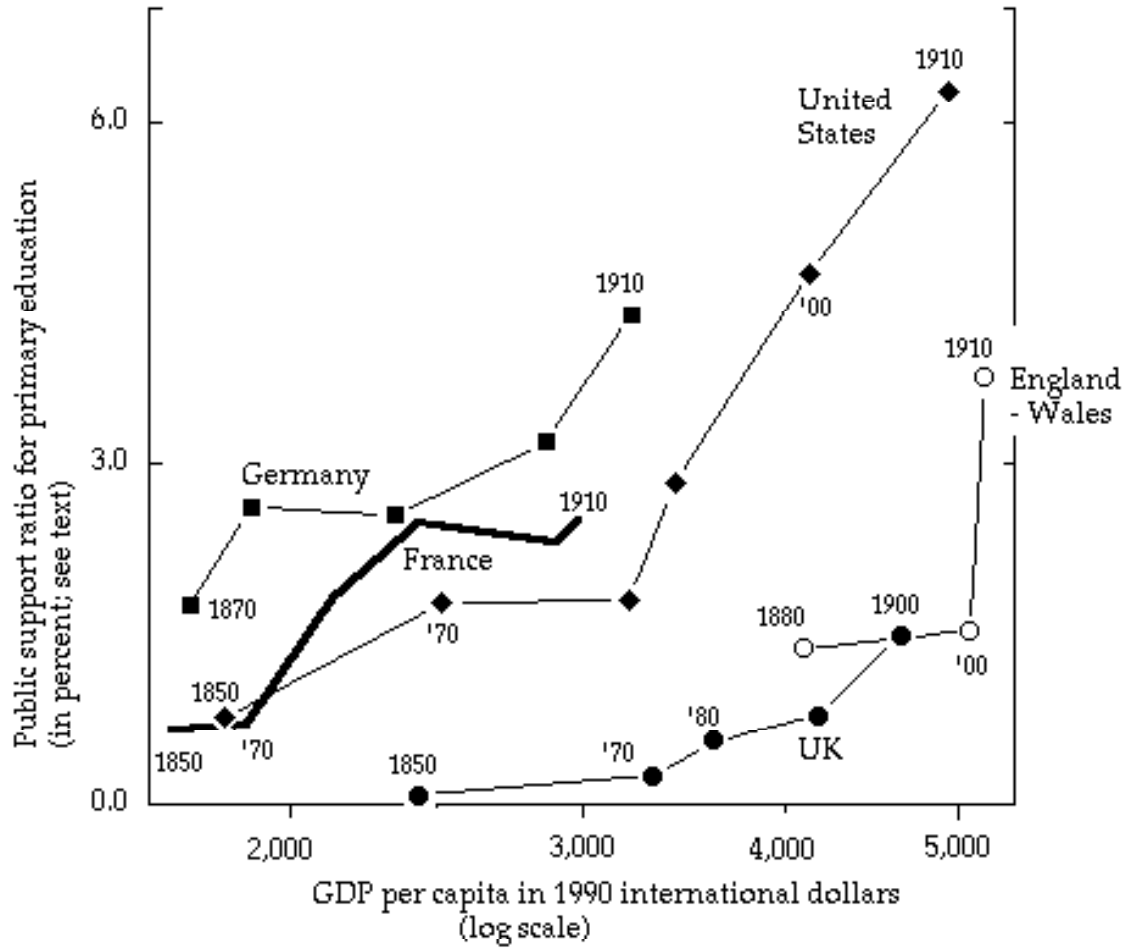
The ten Asian nations averaged together are Bangladesh, China, India, Indonesia, Korea, Malaysia, Nepal, Philippines, Sri Lanka, and Thailand.

for Fingerprint #3, a one-year profile is used to synthesize the whole educational cycle.

The Unesco source, used here for Pakistan, Singapore, and Japan, allows the calculation of the support ratio through two different methods. They do not give the same answers, however.

One possible source of discrepancy is the inclusion of pre-primary expenditures with the primary school estimates.

**Figure 1. Public Support for Primary Education:
Britain versus the Leaders, 1850 - 1910**



Sources: Lindert, "Democracy, Decentralization," and Maddison, Millennial Perspective.

ENDNOTES

¹ *Parliamentary Debates (Hansard)*, fifth series, vol. 444, 11 November 1947, Columns 206-207, with emphasis added to highlight the best-known passage.

Note that Churchill was attributing the now-famous dictum to somebody else ("it has been said"). His reference was probably to William Ralph Inge, "Our Present Discontents (August 1919)," in his *Outspoken Essays: First Series* (London: Longmans, Green & Co., 1919, p. 5), who said: "Democracy is a form of government which may be rationally defended, not as being good, but as being less bad than any other."

² Only after 1958 did the Lords admit women, such as Lady Margaret Thatcher.

³ The performance record of the nationalized British Steel from 1968 to the late 1980s was mixed. Its productivity advances were poor by most standards in the 1970s, but very impressive in the 1980s. On the eve of privatization it had costs as low as any in the world, though it is hard to know whether this was due to the looming threat of privatization itself (Hannah, "State Ownership of Industry, 1945-1990," 176-183).

⁴ James (ed.), *Winston S. Churchill ... Complete Speeches*, volume II, 1143 and 1382. For the larger debate over taxing land during the People's Budget campaign of 1909, see Offer, *Property and Politics*, 242-253, 317-383; Daunton, *Trusting Leviathan*, 330-374; and the sources cited there.

⁵ North, *Institutions, Institutional Change and Economic Performance*, 109-10.

⁶ Hirschman, *Exit, Voice, and Loyalty*, especially 30-54. Some have placed Milton Friedman's *Capitalism and Freedom* in the optimistic camp, but Friedman declined to assert that democracy promoted capitalism. What he did assert is that capitalism promoted freedom and democracy.

⁷ Gerschenkron, *Economic Backwardness in Historical Perspective*, was not explicit in espousing autocracy, but its advantages underlie his argument and his choice of historical case studies.

⁸ Each of these cases was a democracy in large part, if not a full one. In terms of the Polity democracy index from 0 to 10, Weimar Germany, pre-Allende Chile, and Ukraine 1991-95 were rated at 6, and Belarus was rated 7 and 8 in the 1991-94 period.

⁹ Zakaria, "The Rise of Illiberal Democracy."

¹⁰ Przeworski *et al.*, *Democracy and Development*, 178 and 271. Their study is the deepest of the postwar statistical literature on democracy and growth, in that it covers forty years, 137 countries, and the key issue of life expectancy missed by other studies. Yet their impressive empirical offering has some avoidable limitations. One is that their analysis has the limitation of sticking to a strict dichotomy between autocracies and democracies. A second is that, like the rest of the literature, they omit pre-1950 history and some disaster countries. Finally, as noted below, their neutralist position on the growth issue seems to have blocked a balanced presentation of the issue of effects on well-being.

¹¹ See, for example, Clague, Keefer, Knack, and Olson, "Property and Contract Rights in Autocracies and Democracies," and their "Democracy, Autocracy, and the Institutions Supportive of Economic Growth." This pair of studies finds that more durable autocracies outperform more fragile ones. Their different results about the effects of durable democracy are not consistent, however, and are clouded by the difficulty of interpreting fixed-country effects in a cross-section.

¹² Barro, *Determinants of Economic Growth*, especially xi, 58-60; Ferguson, *The Cash Nexus*, Chapter 12. Barro suggests that the level of democracy attained by Malaysia and Mexico might be about right, and that the democratizations by Chile, South Korea, and Taiwan in the 1990s may have gone too far.

¹³ Przeworski and Limongi, "Political Regimes and Economic Growth;" and Helliwell, "Empirical Linkages between Democracy and Economic Growth." A related review and critique of the pre-1990 literature is Sirowy and Inkeles, "The Effects of Democracy." The simultaneity and selectivity issues raised by the Przeworski-Limongi critique in 1993 were later addressed in their (and co-authors') 2000 book, with the neutralist conclusions mentioned in the preceding paragraph.

¹⁴ For example, America's newly freed ex-slaves gave up a large share of the potential income of women, children, and the elderly as soon as they were emancipated. Ransom and Sutch, *One Kind of Freedom*, Chapter 3.

¹⁵ Good defenses of this strictly procedural definition in analyzing democracy and growth are Knack and Keefer, "Cross-country Tests;" Clague, Keefer, Knack, and Olson, "Property and Contract Rights in Autocracies and Democracies;" and Przeworski *et al.*, *Democracy and Development*, especially pages 33-36. Gurr and Jagers take a similar stand when defining "DEMOC" in the Polity data sets. So does Kenneth Bollen ("Political Democracy"), though he also supports the counter-argument I turn to in the next paragraph and footnote.

¹⁶ Kenneth Bollen's critique of definitions of democracy stresses the same point: "Is there no difference in the degree of political democracy, if 95 percent of men are eligible in one country versus 20 percent in another?" ("Political Democracy," 13.)

¹⁷ In the late nineteenth century, almost no Indians had a meaningful right to vote at the regional or India-wide level. In the Australian colonies virtually all adult males voted at the colony or territory level, and women could vote in Western Australia. Yet the Banks and Polity data sets do not recognize either India or Australia as a country with any political rights before Australia became a federated Commonwealth in 1901 (Mackie and Rose, *International Almanac*, 1).

¹⁸ The spread of the European franchise is quantified by Flora *et al.*, *State, Economy and Society in Western Europe, 1815-1975*. The possible dynamic sources of this spread are modeled in Acemoglu and Robinson, "Why Did the West Extend the Franchise?" The passage quoted here from Tennyson (Ricks (ed.), *The Poems of Tennyson*, 530-1) was cited by Churchill in that same speech of 11 November 1947. Both Tennyson and Churchill used it not as a call to extend the franchise, but as a call to make that change more gradual. Writing the original in 1833 or 1834,

Tennyson “feared the results of the political agitation which had led to the Reform Bill, 1832.” (Ricks, *Poems of Tennyson*, 530).

¹⁹ See Engerman, Mariscal, and Sokoloff, “Schooling, Suffrage, and the Persistence of Inequality in the Americas, 1800-1945;” Engerman and Sokoloff, “The Evolution of Suffrage Institutions in the New World;” Lindert, “Democracy, Decentralization, and the Rise of Mass Schooling before 1914;” and Robinson “Are Endowments Fate?”

²⁰ While these illustrations come from the Polity index, because its authors dared to cover a long span of history, the same omission is evident in leading regime taxonomies confined to the period since the 1950s. See Banks, *Cross-Polity Time-Series Data*; Gastil, “The Comparative Survey of Freedom;” and the online World Bank set of political regime indicators.

²¹ Montesquieu, *Spirit of the Laws*, especially 10-1, 340-1; Smith, *Wealth of Nations*, especially Books II.iii and III; North, *Structure and Change in Economic History* and his *Institutions*; North and Weingast, “Constitutions and Commitment;” Olson, “Autocracy, Democracy, and Prosperity” and his *Power and Prosperity*; Schultz and Weingast. “Limited Governments, Powerful States.”

²² DeLong and Shleifer, “Princes and Merchants;” Acemoglu, Johnson, and Robinson, “The Rise of Europe.”

²³ For example, the first recommendation of the World Bank’s *World Development Report 1997 on The State in a Changing World* is that “Efforts to restart development in countries with ineffective states must start with institutional arrangements that foster responsiveness, accountability and the rule of law.” (Page 157.)

²⁴ Easterlin, “Why Isn’t the Whole World Developed?” and Goldin, “The Human Capital Century.”

²⁵ See Barro, “Democracy and Growth;” Barro, *Determinants of Economic Growth*; Barro and Lee, “International Comparisons of Educational Attainment; and Barro and Lee, “Winners and Losers in Economic Growth.”

²⁶ Thus Knack and Keefer, “Institutions and Economic Performance,” and Keefer and Knack, “Why Don’t Poor Countries Catch Up?” find strong growth effects of schooling, but schooling is not considered in Clague, Keefer, Knack, and Olson, “Property and Contract Rights in Autocracies and Democracies,” or in their “Democracy, Autocracy, and the Institutions Supportive of Economic Growth.” In their chapter on “Institutions and Economic Performance: Property Rights and Contract Enforcement,” the four authors find schooling variable insignificant, but this is probably because their dependent variable is non-human investment and because they force two correlated measure of schooling to compete against each other in the same regressions.

²⁷ Bills and Klenow, “Does Schooling Cause Growth?” The Bills-Klenow approach is also narrow in the sense that it omits intergenerational effects such as the well-known effect of female schooling on fertility and learning in the next generation.

²⁸ Temple, "The New Growth Evidence" and "Growth Effects of Education and Social Capital in the OECD Countries."

²⁹ Again see Engerman, Mariscal, and Sokoloff, "Schooling, Suffrage, and the Persistence of Inequality in the Americas, 1800-1945." Similarly, within the United States, their disenfranchisement retarded schooling for blacks and for poor whites. On the racial gap in votes and schools, see Margo, *Race and Schooling in the South*, Chapters 2 and 3. On the correlation between planter power and the lower level of Southern whites' primary and secondary schooling, with no shortfall in university education, see Gerber, "Southern White Schooling, 1880-1940."

³⁰ See the appendix.

³¹ Psacharopoulos and Woodhall, *Education for Development*, surveys the rate-of-return literature worldwide.

³² In 1998, for example, taxpayers paid for over three-quarters of primary and secondary educational expenditures in every OECD country. The same does not hold for tertiary education, of course. Private funds paid for over half of tertiary education in Japan, Korea, and the United States, and almost a quarter of tertiary funding for the OECD as a whole (OECD, *Education at a Glance*, 2001 edition, 94). For the two-century survey of this issue, see Lindert, *Social Spending and Economic Growth*, Chapters 5 and 6.

³³ In defining the school-age population it is important to choose the same age range for all countries, even though the number of years spent in primary school may vary. Choosing almost any age group in the under-20 range gives the same comparative results if applied consistently.

Instead of GDP per capita, a more appropriate denominator might be the average income per adult, a measure of society's effort to raise the knowledge of individual children relative to society's ability to pay. But to simplify, let us use conventional GDP per capita here.

³⁴ Note the difference in denominators: higher education per pupil, but primary education per child of primary-school age. The intent here is to omit the university-age population not receiving higher education, to better isolate the rates of public subsidy to the truly privileged, while weighing down the support measure for primary education by including those who received none. In this way, we make the ratio a stiffer test of true bias in favor of the privileged.

³⁵ The best known presentation of this view is North and Weingast, "Constitutions and Commitment." The part of the story emphasizing the efficiency of eighteenth- and nineteenth-century Britain's tax system is found in O'Brien, "Political Economy of British Taxation, 1660-1815;" Brewer, *Sinews of Power*; and Schultz and Weingast, "Limited Governments, Powerful States."

³⁶ Clark, "The Political Foundations of Modern Economic Growth: England, 1540-1800." Faced with his finding no effect on private interest rates, one who believes that 1688 stimulated capital formation would have to show that it raised the demand for loanable funds as much as it improved the supply of funds.

³⁷ Homer and Sylla, *History of Interest Rates*, Chapters X, XI, and XIII; Clark, "The Cost of Capital" and "Land Hunger."

³⁸ Moore, *Social Origins of Dictatorship and Democracy*, especially 29-39; and Mann, *Sources of Social Power*, volume II, 92-136.

³⁹ The excise duty on glass, for example, was extremely high, around twice the pre-tax cost of glass. The fact that the excise duties on glass, paper were accompanied by import protection may have compensated producers, but not purchasers, of these capital goods and knowledge goods. See Daunton, *Trusting Leviathan*, 32-8.

⁴⁰ See Massie, *Calculations of the Present Taxes*; and O'Brien, "Political Economy of British Taxation, 1660-1815."

⁴¹ Lindert, "Historical Patterns of Agricultural Policy," 47-50 and 61-2. Adam Smith said the same about the early versions of the Corn Laws imposed by "our country gentlemen:" "So very heavy a tax upon the first necessity of life, must either reduce the subsistence of the labouring poor, or it must occasion some augmentation in their pecuniary wages, [which industrialists must pay]." *Wealth of Nations*, 315-6.

⁴² The electorate numbers and voting numbers can be found in either Flora *et al.*, *State Economy, and Society*; in Mackie and Rose, *International Almanac*; or in the latest CD-ROM version of the Arthur S. Banks data set. The age-group populations by sex can be found in some of the Brian Mitchell historical statistics volumes.

⁴³ Michael Sanderson (*Education and Economic Decline*, 29) similarly sees a British lag in education up to 1890, with a delayed cost in terms of overall growth: "1870-1890 was the dangerous period when we risked falling behind and it was the last phase when we had modestly good growth rates (1.2 per cent GDP per man year) compared with our competitors, yet with a poor educational system."

⁴⁴ See Lindert, "Democracy, Decentralization, and Mass Schooling" and *Social Spending and Economic Growth*, Chapter 5. For the expenditure figures and the difficult best guesses about enrollment figures for Britain, see the appendices of either of these two writings, and the sources cited there.

⁴⁵ Maddison, *Millennial Perspective*, 264-5, using the British series of Crafts and Harley to 1820, then Deane, and then Feinstein.

⁴⁶ DeLong and Shleifer, "Princes and Merchants," Table 2; Acemoglu, Johnson, and Robinson, "The Rise of Europe," and the Appendix below.

⁴⁷ More generally, the Gerschenkronian story of integrated banks accelerating industrial growth from above is found wanting in Germany, Japan, and Italy by Fohlin, *Financial System Design and Industrial Development*.

⁴⁸ Melton, *Absolutism and the Eighteenth-Century Origins of Compulsory Schooling in Prussia and Austria*; Green, *Education and State Formation*.

⁴⁹ The argument in this paragraph and the next is developed more fully in Lindert, "Democracy, Decentralization" and *Social Spending and Economic Growth*, Chapter 5.

⁵⁰ The Polity 98 data set (described in Gurr and Jagers, *Regime Characteristics 1800-1998*) gives independent India a democracy rating of 9 out of 10 for 1950-1975. When Indira Gandhi suspended civil liberties during her Emergency of 1975-1977, the

rating dropped to 7 in 1976-1977. Since then it has been an 8, yielding an average democracy index of 8.47 for 1950-1998. By comparison, France had an average index of 8.00 over the same period. The Gastil index of civil liberties puts India behind France for the 1972-1989 period. In that same period, however, India's Gastil index was nearly as good as Spain's, and better than that of Brazil, Mexico, or Thailand (civlibb in the Barro 1994 data set, described in Gastil, "The Survey of Freedom").

In terms of PPP-adjusted GDP per capita, India in 1999 ranked 153rd out of 205 nations, still poorer than Zimbabwe (World Bank, *World Development Report 2000/2001*, 574-575).

⁵¹ World Bank, *India: Reducing Poverty*, Annex Table 4.1).

⁵² Tan and Mingat, *Education in Asia*, 1992; Drèze and Sen, *India: Economic Development and Social Opportunity*, 1995; World Bank, *Primary Education in India*, 1997; PROBE Team, *Basic Education in India*, 1999; World Bank, *India: Reducing Poverty, Accelerating Development*, 2000; Mehrotra and Delamonica, *Public Spending for the Poor. Basic Services to Enhance Capabilities and Promote Growth*, submitted; Mehrotra et al., *Uncaging the Tiger Economy: Financing Elementary Education in India*, submitted.

⁵³ Tan and Mingat, *Education in Asia*, 144-5.

⁵⁴ Drèze, Lanjouw, and Sharma, in Lanjouw and Stern, *Palanpur*, 182.

⁵⁵ J.P. Naik, a leading investigator of Indian education, summarized the rise of rent-collecting entrepreneurship thus in 1967:

In Uttar Pradesh they have a phrase, 'The congress has abolished the Zamindari in land and has created a Zamindari in education.' Such Zamindari [landowners] are managers of colleges, who are well fed, well clothed, and maintain the own cars, all on the profits from the institutions which they run. It is now recognised that running an educational institution can be an important means of economic and political power.

See Rudolph and Rudolph, *Education and Politics in India*, chapters on Faizabad District (U.P.), Mysore state, and Rajasthan. The quotation in this footnote is from Page 94.

⁵⁶ Macauley did not equivocate about English superiority and the need to concentrate on training rulers, not masses:

I have no knowledge of either Sanscrit or Arabic. But... a single shelf of a good European library [is] worth the whole native literature of India or Arabic.... In India, English is the language spoken by the ruling class.... [I]t is impossible for us, with our limited means, to attempt to educate the body of the people. We must at present do our best to form a class who may be interpreters between us and the millions whom we govern -- a class of

persons Indian in blood and colour, but English in tastes, in opinions, in morals and in intellect.

(As reprinted in Zastoupil and Moir (eds.), *The Great Indian Education Debate ... 1783-1843*, 165-6, 169, and 171.)

⁵⁷ Nurullah and Naik, *Students' History of Education in India*, Chapter 10.

⁵⁸ Kearney, "Sri Lanka," Weiner and "Ozbudun," *Competitive Elections*, 80.

⁵⁹ Weiner, "India" in Weiner and "Ozbudun," 41.

⁶⁰ Kearney, Table 3.9, on 101; Weiner, 52.

⁶¹ Jackman and Miller, *Culture, Institutions, and Political Behavior*, Chapter 1.

⁶² For the most recent measurement of the educational gaps by caste, tribe, gender, income class, and state, see World Bank, *Primary Education in India*, 112-141.

⁶³ Fareed Zakaria, "A Conversation with Lee Kuan Yew," 122-3.

⁶⁴ This conclusion is supported by simple correlations between the Polity index of democracy and the rate of growth of GDP per capita between 1960 and 1998. In a sampling of twelve East Asian countries -- China, Indonesia, Japan, North and south, Korea, Malaysia, Mongolia, Myanmar, Philippines, Singapore, Taiwan, and Thailand -- the correlation between democracy and growth is 0.33. Throwing out Japan (as a country already fully developed by 1960) actually raises the correlation to 0.39. The same positive relationship is robust to any treatment of British Hong Kong before 1997, or to the addition of the Indochina nations to the sample.

⁶⁵ If Lee were to try crediting earlier wise autocracy with preparing Korea and Taiwan for mature democracy, his argument for protecting autocrats would share a flaw with the old argument for "infant industry" protection. Parasitic rent-skimmers use that argument to defend their vested interests forever.

⁶⁶ The early deaths in those four years claimed between 2 and 4 percent of the population. The directly food-related policy blunders were augmented by Mao's wasteful campaign to produce steel at the village level, whatever the economic and environmental cost.

⁶⁷ Mao Zedong, "On Democratic Centralism: Talk to an Enlarged Central Work Conference 30 January 1962," in Schram (ed.), *Mao Tse-Tung Unrehearsed*, 146. This passage was previously cited by Sen, *Hunger and Public Action*, 213n.

While they note this case and repeat part of the Mao speech, Przeworski *et al.* seem to be at a loss to handle its meaning, musing only that "it is not apparent whether this is an argument strictly about avoiding disasters or about average performance." (*Democracy and Development*, 144.) Surely the disasters are part of the average, and surely death matters along with the growth rate of GDP per capita.

⁶⁸ Sen, "Freedoms and Needs," *New Republic*, January 10 and 17, 1994, 31-8, especially 34. For his underlying analysis of twentieth-century famines, see *Hunger and Public Action*, especially Pages 210-4 on China's famine, and Drèze and Sen (eds.), *The Political Economy of Hunger*.

⁶⁹ Formal tests for 21 nations between 1880 and 1930 show that a rise in the share of men voting, from around 30 percent to 80 percent or higher, significantly raises public pensions and total social spending (Lindert, "Rise of Social Spending" and *Social Spending and Economic Growth*, Chapters 4, 7, and 16). While this data set had to stop with 1930, it is very likely that the 1930-1950 rise of democracy in Scandinavia, Austria, Germany, and Italy also raised transfers and taxes.

⁷⁰ Lindert, "What Limits Social Spending?" and *Social Spending and Economic Growth*, chapters 10-12 and 18, and the earlier studies cited there. The dangers of redistribution are not to be dismissed altogether, however, as shown by Allende's disastrous assault on the rich in 1970-1973.

⁷¹ The 24 countries are Argentina, Australia, Austria, Belgium, Brazil, Canada, Denmark, Finland, France, Germany, Greece, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Siam/Thailand, the United Kingdom, and the United States. The fact that territorial boundaries changed across World War I (e.g. from the Austrian half of the Austro-Hungarian Empire to Austria alone) should pose little problem here, given that the sample is intended to capture political changes. The only likely violation of the usual statistical assumptions comes from the fact that serial correlation behavior might not be consistent if the geography of the country changed.

⁷² See the appendix tables.

⁷³ For primary and secondary education, I focus on public enrollments only, and not private enrollments, for two reasons. The first is that data on public enrollments are more consistently and reliably reported than private enrollments. The second is that this paper focuses on government policy institutions, and it is appropriate to judge the whole effect of public effort on economic growth, with the partial substitution of public for private schooling built into the reduced-form estimates. Little harm is done here, since a rise in public expenditure or enrollment raises the total expenditure or enrollment as well. There is not much "crowding out" of private school effort, as I argued in "Democracy, Decentralization, and The Rise of Mass Schooling."

⁷⁴ On America's twentieth century leadership, again see Goldin, "The Human Capital Century." On all the patterns mentioned here, see Lindert, "Democracy, Decentralization, and the Rise of Mass Schooling," and the appendix.

⁷⁵ On how the need for workers' informed discretion contributed to the decline of slavery, see Stefano Fenoaltea, "Slavery and Supervision."

⁷⁶ Kim Dae Jung, "A Response to Lee Kuan Yew," 192-3. I am indebted to Kim Suk Ho for this reference.

APPENDIX
Regression Equations for Enrollments, Growth,
and Political Regimes, 1881 - 1937

**Appendix Table A. Regression Equations for School Enrollment Rates
per 1000 Children 5-14 , 24 Countries in 1881 - 1937**

Dependent variables: Public-school enrollments per 1,000 children 5-14

	(1) primary only		(2) primary only	
	<u>coeff.</u>	<u> t </u>	<u>coeff.</u>	<u> t </u>
School-age (5-14) share of total pop.	-7.80	(2.94) **	-4.59	(1.98) a
ln (GDP/capita), 8 years earlier	167.6	(8.71) **	117.3	(7.42) **
<i>Religion</i>				
Catholic dominance	-418.7	(6.46) **		
Protestant dominance	-154.9	(1.55)		
<i>Political regime variables (see also "Effects" below):</i>				
Autocracy index (0-10)	2.57	(1.11)	4.42	(2.48) *
Did women vote 8 years earlier?	-1.6	(0.10)	-3.4	(0.27)
Franchised as a % of population over 20	-0.8	(0.34)	-0.61	(0.36)
Franchised share, squared	0.060	(1.15)	0.057	(1.47)
Franchised share, cubed	-.0005	(1.68) a	-.0005	(2.10) *
Constant term	-506.6	(2.87)	-149.6	(1.00)
Allowing for 23 fixed country effects?	No		Yes	
"R sq.," equation F-statistic	.574	28.7	.879	46.6
Mean of the dep. var., std. error of estim.	550.42	0.98	550.42	0.97
<i>Effects of selected shifts toward more electoral democracy:</i>				
(a) from benign non-democracy to 30% franchi:	16.6	(0.51)	20.08	(0.85)
(b) from 30% franchise to 80% franchise	48.2	(1.49)	51.26	(2.11) *
(c) from benign non-democracy to 80% franchi:	64.8	(3.21) **	71.35	(4.06) **
(d) from benign non-democracy to 100% franchi:	21.3	(1.21)	31.15	(1.92) a
Type of equation	pooled GLS		pooled GLS	

(** = significant at the 1% level, two-tail; * = significant at the 5% level;

a = significant at the 7% level; b = significant at the 10% level.)

Appendix Table A, continued

Dependent variables:	<u>Enrollments per 1,000 children 5-14</u>			
	(3) primary plus secondary (public)		(4) university (public + private)	
	<u>coeff.</u>	<u> t </u>	<u>coeff.</u>	<u> t </u>
Primary enrollment rate, 8 years earlier	0.82	##### **	-0.0018	(0.52)
School-age (5-14) share of total pop.	-2.8	(1.48)	-0.7	(4.21) **
ln (GDP/capita), 8 years earlier	79.3	(6.78) **	6.6	(5.63) **
<i>Political regime variables (see also "Effects" below):</i>				
Autocracy index (0-10)	1.2	(0.80)	-0.17	(1.16)
Did women vote 8 years earlier?	-3.8	(0.31)	5.0	(5.14) **
Franchised as a % of population over 20	-0.78	(0.39)	0.43	(3.01) **
Franchised share, squared	0.030	(0.63)	-0.011	(3.32) **
Franchised share, cubed	-0.0002	(0.77)	0.00007	(3.40) **
Greece in the 1920s (secondary overcounte	101.1	(2.83) **	-5.6	(2.16) *
Constant term	-421.3	(4.34)	-31.2	#####
Allowing for 23 fixed country effects?	Yes		Yes	
"R sq.," equation F-statistic	.983	338.0	.793	
Mean of the dep. var., std. error of estim.	581.8	0.97	5.6	3.09
Number of non-zero observations, out of 192			7	
<i>Effects of selected shifts toward more electoral democracy:</i>				
(a) from benign non-democracy to 30% franch	-2.6	(0.10)	1.5	(2.46) *
(b) from 30% franchise to 80% franchise	18.8	(0.65)	-2.3	(3.44) **
(c) from benign non-democracy to 80% franch	16.2	(0.99)	-0.8	(2.21) *
(d) from benign non-democracy to 100% franc	1.3	(0.11)	-0.2	(0.56)
Type of equation	pooled GLS		tobit	

(** = significant at the 1% level, two-tail; * = significant at the 5% level;

a = significant at the 7% level; b = significant at the 10% level.)

Notes and sources to Table A:

The sample consists of 24 countries over eight benchmark years. The 24 countries are Argentina, Australia, Austria, Belgium, Brazil, Canada, Denmark, Finland, France, Germany, Greece, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Siam/Thailand, the United Kingdom, and the United States. The eight benchmark years are spaced eight years apart: 1881, 1889, 1897, 1905, 1913, 1921, 1929, and 1937.

The fact that territorial boundaries changed across World War I (e.g. from the Austrian half of the Austro-Hungarian Empire to Austria alone) should pose no problem here, given that the sample is intended to capture political changes. The only likely violation of the usual statistical assumptions comes from the fact that serial correlation behavior might not be consistent if the geography of the country changed.

The enrollment rates are from Lindert, "Democracy, Decentralization, and Mass Schooling before 1914," University of California - Davis, Working Papers 104 and 105 (April 2001), Appendix A. To interpolate between my decadal benchmark estimates, I used some of the enrollment figures from the Arthur S. Banks CD-ROM for 1815-1999. But in some cases, especially the UK, I prefer my own estimates over those than Banks presents without citing his sources.

The franchise is the shares of the over-20 population legally entitled to vote, in settings where I judged the voting power to be real (see below). For years when women were not yet entitled to vote, the over-20 population refers to men only. Alternative regressions used the actual voter turnout instead of the franchise share used here. The results were qualitatively the same, both in the regressions using voter turnout and in similar regressions on the 1880-1930 decadal sample results reported in Agricultural History Center Working Papers 104 and 105. The franchise and voting shares are from the Arthur S. Banks cross-polity CD-ROM for 1815-1999, which draws them mainly from Mackie and Rose (1991). The autocracy index is from the Polity 98 version of the Gurr-Jagers Polity data set.

The franchise voting power was judged to be illusory and not real in cases where the Banks indexes and the Mackie description of franchise institutions suggested that voters had little power over the legislature and the chief executive, despite their actually voting in legislative elections. Thus I entered zeroes for the franchise in these cases where elections were actually held: Belgium, Germany and Italy up to World War I; Norway to 1882, and Sweden to 1907.

Both the autocracy index and the franchised shares are predicted values, rather than actual observed values. The instrumental-variable equations generating these predictions are the political-regime equations in Appendix Table C.

Catholic dominance = the amount of the Catholic majority among religious declarants. It equals the maximum of either 0 or the Catholic share minus .50. It takes on positive values for nine countries.

Protestant dominance = the corresponding majority margin for Protestant countries, with some cases judged to involve no dominance despite a Protestant majority. It equals nearly 0.50 for Denmark, Finland, Norway, and Sweden. It equals 0.16 for the UK before the separation of Ireland, and 0.10 for 1921-1937.

The religion data are mostly from *Annuaire Statistique de la France* for the 1930s. Those from France, the UK and a few other countries are from encyclopedias, in some cases for postwar years.

"Benign" non-democracy here refers to a polity with an autocracy rating of zero, but with enough impediments to legislative effectiveness and enough power of the monarch for me to disregard any suffrage rates, setting them at zero despite the occurrence of elections. The only pure example in the sample is Norway 1898-1913, though prewar Belgium came close, with autocracy = 1.

For Greece in the 1920s, I used the Banks data series on secondary and higher education rather than the less complete Mitchell series. However, the Banks series seems to overcount secondary enrollments, partly at the expense of tertiary enrollments. This necessitated adding the "Greece in the 1920s" variable to capture the temporary miscount.

The test statistics listed under "effects" at the bottom of the table start from the most limited autocracies, those with a Polity AUTOC index of 0, combined with my judgment that they were nonetheless not democracies. For stricter autocracies, note the autocracy index coefficient.

Regressions were run using the POOL command in SHAZAM 8.0, using the option that sets the same first-order rho coefficient for all countries in making the Cochrane-Orcutt transformation.

Appendix Table B. Regression Equations for Eight-year Growth Rates of GDP per Capita, 24 Countries in 1881 - 1937

	(5) Growth of GDP per capita		(6) Growth of GDP per capita	
	<u>coeff.</u>	<u> t </u>	<u>coeff.</u>	<u> t </u>
Growth of the global economy	0.736	##### **	0.750	##### **
This country's backwardness, 8 years earlier	0.091	(3.73) **	0.092	(3.85) **
Agriculture's share of labor force, 8 yrs. earlier	-0.010	(0.17)	-0.023	(0.37)
Public primary school enrollments, 8 years earlie	#####	(1.69) b		
Public secondary school enrollments, 8 years ear	0.00053	(1.92) a		
University enrollments, 8 years earlier	-0.0027	(1.64)		
Autocracy index (0-10)	-0.017	(4.20) **	-0.019	(4.90) **
Franchised as a % of population over 20	-0.00017	(0.69)	0.000	(0.00)
Constant term	-0.028	(0.95)	0.021	(0.92)
Allowing for 23 fixed country effects?	No		No	
"R sq.," equation F-statistic	.579	33.0	.537	43.1
Mean of the dep. variable, std. error of estimate	0.097	0.986	0.097	0.501
Type of equation	pooled GLS		pooled GLS	
	(7) Growth of GDP per capita		(8) Growth of GDP per capita	
	<u>coeff.</u>	<u> t </u>	<u>coeff.</u>	<u> t </u>
Growth of the global economy	0.724	##### **	0.750	##### **
This country's backwardness, 8 years earlier	0.331	(6.66) **	0.263	(5.18) **
Agriculture's share of labor force, 8 yrs. earlier	0.129	(1.41)	-0.0069	(0.08)
Public primary school enrollments, 8 years earlie	0.00005	(0.77)		
Public secondary school enrollments, 8 years ear	0.0019	(4.79) **		
University enrollments, 8 years earlier	-0.0084	(3.65) **		
Autocracy index (0-10)	-0.019	(4.30) **	-0.021	(4.42) **
Franchised as a % of population over 20	0.000	(0.19)	-0.00021	(0.82)
Constant term	-0.203	(2.51)	-0.077	(1.19)
Allowing for 23 fixed country effects?	Yes		Yes	
"R sq.," equation F-statistic	.730	16.7	.642	12.3
Mean of the dep. var., std. error of estim.	0.097	0.984	0.097	0.983

Notes and sources to Appendix Table B:

See also the notes and sources to Appendix Table A.

The "growth of the global economy" variable equals the log-growth, over the last eight years, of the GDP per capita for eleven annual-data countries: Belgium Canada, Denmark, France, Germany, Italy, Netherlands, Norway, Sweden, UK, and US, from Maddison, *Monitoring the World Economy*.

The backwardness variable equals the log-difference between the GDP per capita of the highest-income country (either Britain or America) and the GDP per capita of this country, eight years earlier.

All educational enrollments are percentages of the same 5-14 age group population.

This is not the usual school-age population, especially for university students.

Yet the same denominator was used throughout in order to make the enrollment figures, addable across levels of schooling. In any case, all young age-group populations tend to move similarly as shares of total population.

Both the autocracy index and the franchised shares are predicted values, rather than actual observed values. For the instrumental-variable equations generating these predictions, see Appendix Table C.

Regressions were run using the POOL command in SHAZAM 8.0, using the option that sets the same first-order rho coefficient for all countries in making the Cochrane-Orcutt transformation.

**Appendix Table C. Regression Equations for Political Regimes:
the Autocracy Index and the Franchise Share,
24 Countries in 1881 - 1937**

	(9) The autocracy index (Polity)		(10) The franchised share of adults	
	<u>coeff.</u>	<u> t </u>	<u>coeff.</u>	<u> t </u>
The autocracy index, lagged 8 years	0.976	(6.25) **	1.10	(0.53)
The autocracy index, lagged 16 years	-0.278	(1.36)	0.38	(0.14)
The autocracy index, lagged 24 years	0.254	(1.56)	-1.48	(0.71)
Franchised as a % of adult population, lagged 8 y	0.011	(0.90)	0.96	(6.54) **
Franchised as a % of adult population, lagged 16	0.003	(0.22)	-0.13	(0.74)
Franchised as a % of adult population, lagged 24	-0.069	(4.25) **	0.12	(0.78)
ln (GDP/capita), 8 years earlier	0.132	(0.16)	31.58	(2.89) **
Growth of the global economy	3.654	(1.42)	-26.17	(0.94)
Lost a war in the last 8 years	-17.154	(0.01)	82.78	(3.44) **
Lost a war 9-16 years ago	-14.825	(0.01)	51.20	(2.40) *
Share of population in cities > 50,000, 8 years earl	1.139	(0.25)	-67.59	(1.78) b
Primary + secondary enrollment rate, 8 years earli	-0.0011	(0.82)	0.029	(1.61)
Constant term	-1.466	(0.25)	-259.83	(3.25)
Allowing for 23 fixed country effects?	No		No	
"R-squared"	.693		.763	
Mean of the dep. variable, std. error of estimate	1.302	2.521	26.86	30.779
Number of non-zero observations, out of 192	104		98	
Type of equation	Tobit		Tobit	

Notes and sources to Appendix Table C:

See also the notes and sources to Appendix Tables A and B.

The variable "lost a war in the last decade" = 1 for France 1881, and for Germany and Austria in 1921 and 1929, otherwise = 0.

The share of the population living in cities greater than 50,000 in population is from the CD-ROM of the Arthur S. Banks data set for 1815-1999.

In the case of tobit regressions the "R-squared" parameter is the squared correlation between observed and expected values, and the mean of the dependent variable is the expected expected value at the mean values of all independent variables.

Regressions were run using the TORBIT command in SHAZAM 8.0