

Item #7

RESEARCH SEMINAR IN LAW, ECONOMICS, AND ORGANIZATION
Professors Bebchuk, Hart, and Kaplow

Monday, November 21, 2005

Pound 108, 12:30 p.m.

CREATING CONSTITUENCIES FOR REFORM

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* Presenting

August 2005

Creating Constituencies for Reform¹

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Why is underdevelopment so persistent? A growing consensus in recent years suggests this is because poor countries lack the institutions needed for economic growth. Implicit in this consensus is the notion that, first, specific institutions do matter, and second, institutional endowments are extremely hard to change. It is, however, very hard to tell institutions apart from the constituencies behind them. In particular, what is attributed to the immutability of institutions may instead be due to the persistence of constituencies behind those institutions – the groupings in society that demand the institutions and have the power to obtain them. This then leads to the question of why constituencies are so persistent. One possible explanation this paper focuses on is that constituencies are largely determined by factor endowments, and in the equilibrium poor societies find themselves in, these endowments are particularly difficult to change. On the one hand, such an analysis offers hope that the destiny of societies is not preordained by the institutions they inherited through historical accident, on the other hand it suggests we need to understand better how to alter factor endowments when societies may not have the internal will to do so.

¹ This paper reflects the authors' views and not necessarily those of the International Monetary Fund, its management, or its Board. We thank Subir Lall and Arvind Subramaniam for valuable comments on an early draft and Yannis Tokatlidis for research assistance.

Why is underdevelopment so persistent? A growing consensus in recent years suggests this is because poor countries lack the institutions needed for economic growth. Indeed, recent work suggests that stronger institutions seem to accompany economic growth. There is, however, controversy about what exactly to make of the empirical findings.² As suggested by Glaeser et al. (2004), what is typically measured by this literature is not what most people would understand to be institutions (such as constitutions, laws, organizations, religion, and culture) but outcomes such as the rule of law or absence of corruption. We do not know whether these outcomes result from good institutions or something else, such as a better-educated population. Of course, one way to address this concern is to use instruments that are correlated with institutions but uncorrelated with the “something else”.

The most persuasive effort has been by Acemogulu, Robinson, and Johnson (2001), who argue that the extent of settler mortality caused by the disease environment in colonies resulted in settler populations of differing sizes. Settler populations of smaller size (that is, in high disease colonies) tended to be more exploitative, and this was reflected in the institutions they created. Thus settler mortality, they suggest, can be used as an instrument for institutions. However, even this approach is not without controversy. For example, Glaeser et al. (2004) argue the disease environment in the past also reflects the disease environment today, and to the extent that disease affects growth, the instrument is correlated with the “something else”. In a similar vein, Engerman and Sokoloff (1997, 2002) suggest that colonies with a small settler population (which, parenthetically, they attribute to other factors than settler mortality, such as the size of the existing

² See, for example, Acemogulu, Johnson, and Robinson (2001), Dollar and Kraay (2003), Easterly and Levine (2003), Engerman and Sokoloff (2002), Hall and Jones (1999), Knack and Keefer (1995), Mauro (1995), and North (1981,1990), Rodrik, Subramanian, and Trebbi (2002), WDR (2003), WEO(2003).

local population) tended to suppress education possibilities for the native population. Is it therefore the lack of education or the lack of sound institutions that results in slower growth?

More generally, without direct evidence pertaining to the channels through which institutions work (as contrasted with evidence on institutional outcomes), we have great difficulty in telling whether specific institutions did matter, or whether other things closely correlated with them, such as the constituencies backing them, mattered. Put differently, if one society enacts civilized laws while another does not, and they score differently on “rule of law”, we have no way of knowing whether it is the laws that matter or whether it is the powerful constituency that pressed for the law and paid for an honest police force to enforce them that matters. Without the constituency backing them, laws may simply be words on a piece of paper.³

The distinction between constituencies and institutions becomes particularly important when we turn to the persistence of underdevelopment. Is the persistence of bad colonial legacies – as proxied for by legal origin (see Laporta et al. (1998), for example) or settler mortality – because of the durability of bad institutions? For example, Easterly and Levine (2003) describe the institution view of development thus:

“The environment’s main impact on economic development runs through long-lasting institutions. For example, environments where crops are most effectively produced using large plantations will quickly develop political and legal institutions that protect the few landholders from the many peasants (Engerman and Sokoloff (1997,2002)). Even when agriculture recedes from the economic spotlight, enduring institutions will continue to thwart competition and hence economic development.

³ This is not to say to say that institutions do not matter. They may indeed have important effects such as setting or coordinating expectations about behavior, or constraining it. Instead, the point is that they may have little weight on their own, without the constituencies backing them. Put another way, the Declaration of Rights limiting the powers of the British Monarchy following the Glorious Revolution would have been irrelevant if it had not been imposed by a Parliament that had beheaded one king and just deposed another (see Rajan and Zingales (2003)). Similarly, the fact that Liberia has not thrived despite adopting U.S. institutions does raise questions about whether institutions matter on their own.

Similarly, many countries' institutions were shaped during colonization, so that examining colonies is a natural experiment (Acemoglu, Johnson, and Robinson (2001,2002)).”

While it is plausible that good institutions like the United States constitution are durable, and may have a life of their own, it is far less clear why bad, exploitative institutions should be durable. Will bad institutions not crumble, unless constantly refreshed, as societies are subject to internal and external pressures for change? Indeed, exploitative societies often have an absence of good institutions than a presence of bad ones. In short, therefore, is it possible that persistence of underdevelopment has little to do with the persistence of (bad) institutions, and much more to do with the persistence of the strength of underlying constituencies that created the exploitative structures?

If we pursue these questions, we immediately have to ask why constituencies or power structures are persistent? One could argue that the initial few settlers were followed by local oligarchs who kept things the way they were (see, for example, Robinson (2001)). While this may be a good description of the distant past, the oligarchs must have had more support to survive both independence and the increasing calls for democracy that have swept the world in recent years. Oligarchs may well be important, but we have to look beyond them. The argument we will offer is that constituencies develop around relative factor endowments, and the instinctive desire of constituencies to preserve rents makes these endowments hard to change. In fact, it will make all reform difficult. The argument echoes that in Engerman and Sokoloff (2005), though our model applies even to a more democratic society where the rich do not have a monopoly over political power.

Specifically, we model an economy with oligopolists (or oligarchs), the educated (or a middle class), and the uneducated (or the poor). Each oligopolist runs a firm, with managerial positions that can be filled only by the educated, and (less productive) laborer positions that can be filled by anyone.

Laborers are more productive when there are more managers, and vice versa. The marginal laborer (manager) is less productive as the number of laborers (managers) increase.

In this simple framework, we examine the support for two kinds of reforms – the first increasing factor endowments by making education available to the currently uneducated and the second increasing competition through market-oriented reforms, which will allow the educated to open competing firms. We assume that because of a combination of money power and numbers, each class has one vote. Reforms that get a majority (that is, two out of three votes) are enacted. Unlike prior work (see, for example, Bourguignon and Verdier (2000), Glaeser et al. (2005), or Robinson (2001)), we do not assume that reforms directly affect political participation and thus voting power. Instead, they affect economic outcomes and thus incentives. The interesting result is that comprehensive reforms (that is, enacting both reforms) is extremely unlikely, but equally unlikely is reforms increasing factor endowments only, even though a majority may be in support.

The reason is simple. The uneducated are always for more education because it will give them access to better opportunities. The educated are against it because it will increase competition for their rents. The oligopolists would prefer a more educated work force, because it can help them reduce the rents currently obtained by the educated. However, the oligopolists know that if they do vote for education, they will have a workforce that is united in interests. This constituency will then push for market reforms. To forestall the greater loss from market reforms, the oligopolist votes with the educated against expanding education.

If education reforms are unlikely to be enacted, the uneducated may turn against pro-market reforms. While pro-market reforms expand opportunities for the educated, and create new employment opportunities for the uneducated, there is also a dark side. The greater freedom of the educated may worsen the conditions of the uneducated: The uneducated benefit from the oligopolistic

environment where the educated are forced to work for the oligopolist as managers, thus enhancing laborer productivity (and thus wages). With fewer managers working for the oligopolist post pro-market reforms, the productivity of labor may fall, thus depressing wages.

In sum, under a wide variety of conditions, no reform takes place. Partial, pro-market, reforms can take place if the uneducated are not against them, or if the oligopolist colludes with the educated, accepting partial reform in order to avert more comprehensive reform. Education reform will take place only when the educated realize that is the only way they will get pro-market reforms. Therefore, education reforms typically take place when the educated desire comprehensive reforms (and the uneducated are against partial, pro-market, reforms). We characterize the narrow circumstances under which the polity is favorable to education reforms. Typically, comprehensive reform occurs when the number of educated relative to uneducated is high so that the rents from the status quo are small – that is, when the economy has a substantial middle class – and when the oligopolist is reasonably efficient so that the uneducated prefer the status quo to partial reforms.

The main point then is that if a society starts out with a small educated class that enjoys substantial rents, this class will make common cause with oligopolists (who fear a unified pro-reform constituency) in keeping human capital endowments the way they are. Put another way, endowment-changing reforms coalesce interests, and could thus lead to far deeper reforms. This is why there could be strong coalitions against them. This implies that endowment-changing reforms will often have roots elsewhere than in economic interest. Often, though not always, these came into play in periods when the competitive concerns we have documented are muted by feudal ties and obligations, or by communist state structures. Three come immediately to mind. Religion has often been a strong factor – for example, Protestant leaders like Calvin and Luther emphasized literacy because “the eternal welfare of every individual depends upon the application of his own reason to the revelation

contained in the Scriptures”.⁴ Nationalism has been a second factor, with Korea emphasizing widespread education, in part to counteract the effects of Japanese colonialism and create a national consciousness (see Weiner (1991)). And, interestingly, communism has promoted mass education, partly for ideological reasons, and partly because it has been an instrument of political socialization (Easterlin (1981)).

The implications if constituencies matter for institutional outcomes, and if they are the source of persistence, are not just semantic. First, there is potentially greater hope for poor countries because their fate is not sealed as a result of their colonial legacy of institutions. While it may be difficult to alter factor endowments, it is certainly far easier to do so than to alter history. Second, the focus of development action changes, from attempting to impose blue prints on societies such as liberal constitutions, to changing the underlying endowments and hence the balance of interests and power. Third, the focus of research changes – from clubbing Mobutu Sese Seko and Lee Kuan Yew in the same box because the explicit constitutional limits on their power were similar, to putting them in very different boxes because the constituencies that afforded them power were very different.

Once we accept that institutions, especially bad ones, may not be very persistent without the underlying power structures holding them in place, it becomes easier to understand why we have seen such extraordinary change in countries that were under the yoke of communism. While the years spent under communism may have affected peoples’ attitudes somewhat (see Alesina and Fuchs-Schudeln (2005)), the speed with which socialist institutions were replaced by market institutions does not speak highly of the durability of the former. One might argue that market institutions were always latent in some of the transition countries in Europe, but the argument is harder to make for China or Vietnam. Instead, we would argue that one of the virtues of communism is a very strong

⁴ Paul Monroe, *A Text-Book in the History of Education* (London, 1907), p 407.

emphasis on education, and this creates the broad constituencies that can press for market reforms once the stranglehold of the nomenklatura is broken. Ironically, instead of capitalism containing the seeds of its own destruction, the seeds for flourishing capitalism have been nurtured in the soil of communism. Capitalism may well be an advanced phase of communism!

Our analysis also suggests why reforms have been so difficult in Africa and Latin America, where a relatively small, educated urban middle class has often sided with a small ruling clique in opposing wider, deeper, reform. In a sense, this echoes an older literature (see, for example, Bates (1983) or Krueger (1974), and more recently Shleifer and Vishny (2002)), which sees the roots of underdevelopment not so much in the lack of institutions (which may be a proximate rather than a deep cause) but in the natural self preservation of a rent-oriented society. In such a situation, our paper raises the possibility that reforms emphasizing competition should perhaps have come after reforms that spread endowments like education or land more evenly across society. With pro-market reforms coming first, the poor may well have been made worse off in some countries, making them turn against reforms. In addition, once the opportunities for the middle class were liberalized, they too may have withdrawn their support for further reform. Perhaps further reform in a number of these countries is possible only when serious attention is paid to increasing the endowments of the poor.

In sum, our paper tries to reconcile the insights in Glaeser et al. (2004,2005) and those in Acemoglu, Robinson and Johnson (2001) and Engerman and Sokoloff (1997,2002). Following Glaeser et al. (2004), we argue that institutions may only have a proximate (but material) role in fostering economic growth. Indeed, we claim that underlying constituencies may be more important and a focus only on explicit institutions may be misleading. But like AJR and ES, we argue those constituencies may have historical origins. The channel of transmission of those effects is, however, not through institutions but through the persistence of constituencies.

The rest of the paper is as follows. In section I, we present a framework for our model, in section II, we analyze outcomes under different reform scenarios, in section III we determine the voting equilibria, and in section IV we discuss implications, the related literature, and conclude.

I. The Framework

1.1. Technology and endowments

Consider an economy with three types of agents: incumbent oligopolists denoted by superscript O, educated workers (superscript E), and uneducated workers (superscript U). The economy starts out with each oligopolist having a production technology that enables him to produce $\theta m^\alpha l^\beta$ where m indicates the number of workers in managerial positions and l is the number of workers employed as laborers, and θ is an efficiency parameter. We assume

Assumption 1: (i) $0 < \alpha < 1$, $0 < \beta < 1$ (ii) $\alpha + \beta < 1$ (iii) $\alpha > \beta$

In words, (i) ensures diminishing marginal productivity of both managers and laborers, and (ii) implies decreasing returns to scale. We believe managerial positions are more productive than laborer positions – one could think of a production hierarchy where managers supervise workers (see Rosen (1983)), hence (iii).

In what follows, we normalize the number of oligopolists to one (knowing that there are competing oligopolists with the same technology of production in the background). The total number of educated workers initially (henceforth, all quantities are per oligopolist) is \bar{e} and the number of uneducated is \bar{u} . It is reasonable that for a developing country, the number of uneducated workers vastly outnumber the educated. We make the milder assumption that

$$\frac{\bar{e}}{\bar{u}} < \frac{\alpha}{\beta} \tag{1.1}$$

An educated worker can occupy either a managerial position or a laborer's position or divide his time between the two (though he is not more productive in the laborer's position than an uneducated

worker), while an uneducated person can only occupy a laborer's position. The oligopolist is a pure rentier and does not work, though results would be largely unchanged if we assumed he did.

1.2. Reforms

Without reforms, only the oligopolist can produce, hence everyone performs has to work for him. We consider two reforms. The first expands *access* to factor endowments. Specifically, *education* reforms allow all uneducated workers to receive an education. For simplicity, we assume there are no costs to this reform, and the uneducated bear no cost in getting an education. The second expands *opportunities* by increasing the ease with which new businesses can be set up. The precise reforms could range from a strengthening of property rights to a removal of licensing laws and other bureaucratic barriers to entry. Such *pro-competition* reforms allow the educated to set up new businesses, and produce $m^\alpha l^\beta$. Uneducated workers can quit their jobs with the oligopolist and get jobs as laborers in these new businesses but this will require the payment of transportation costs, which are a fraction s of their marginal productivity in the business they join.⁵ The uneducated do not have the capacity to open their own businesses.

1.3. Preferences

Production may take place while reforms are being undertaken. However, agents are patient, so they care about their income in the long run, that is, their income after all reforms take place (any interim income is insignificant relative to the present discounted value of long run income).

1.4. Sequencing and Voting on Reforms

We assume the economy does not have the administrative capacity to undertake both reforms at the same time so they have to be sequenced. Since we will see the reform sequence matters, in the

⁵ The educated, who start a new business, do not face transportation costs. This is for simplicity, but can be supported by the notion that they set up business at a conveniently close location to where they live.

first stage, the electorate votes on the reform agenda: whether educational reforms or pro-competition reform will be undertaken first (or whether neither will be undertaken).

Agents do not have different preferences from anyone else of their type (that is, the initially uneducated, the educated, and the oligopolist), hence it is reasonable to assume that individuals of a type express their voting preferences as a single collective. Our economy need not be a democracy – power then is a function of money and numbers. But even in a democracy, power stems from a combination of money and numbers. Oligopolists are few in number but have tremendous money power while the uneducated have little money power but are large in numbers. The educated are in between. It is plausible, therefore, that each of these initial types (or, equivalently, classes) have equal voting power (voting power could be thought of more broadly as influence over policies if the economy is not a democracy).

To simplify matters for the first stage, we assume that each class truthfully ranks the various options (education first, competition first, no reform) based on its preferences over the final outcome if that option were to be voted in.⁶ The option that has the lowest sum of ranks is chosen. Ties are broken at random, through a toss of a coin.

So long as the “no reform” option is not chosen in the first stage, the first reform on the agenda is voted on in the second stage. If a majority (at least two out of three) vote for the reform, the reform is undertaken, else it is not. Then the electorate votes on whether the second reform will be undertaken.

The electorate has no ability to commit itself in the first stage vote not to undertake further reform once the first reform takes place (however, if a reform is turned down once by the electorate, it

⁶ We assume that because of collective action problems within a class, strategic voting is not possible. Our objective is to show that reform is difficult even if we ignore the well known problems associated with strategic voting. The basic results would also go through if we assumed the sequence emerged randomly. Also, voters think through the logical series of consequences if their choice prevailed rather than just the initial effect.

cannot be voted on again). We also assume that it is not possible to make binding agreements to transfer wealth following a vote, conditional on its outcome (see, for example, Dixit and Londregan (1995) or Rajan and Zingales (2000) for why such promises may be difficult). It will turn out that those who benefit most from reforms are the poor uneducated, so liquidity constraints may add further to the difficulty of making binding promises. So a type votes based on how its own economic circumstances will evolve rather than on the basis of aggregate societal welfare.

II. Outcomes under various scenarios

Now let us examine outcomes under various scenarios.

2.1. Status Quo.

When no reforms take place, per period production is $\theta (\bar{e})^\alpha (\bar{u})^\beta$, with the educated working as managers and the uneducated working as laborers.⁷ Because the labor market is competitive (between oligopolists), each worker gets his marginal product as wage. Each manager gets $\theta\alpha (\bar{e})^{\alpha-1} (\bar{u})^\beta$ while each laborer gets $\theta\beta (\bar{e})^\alpha (\bar{u})^{\beta-1}$. The oligopolist gets the residual, which is positive and increasing in the managers and laborers he uses because the technology is diminishing returns to scale.

2.2. Partial Reforms: Education but no Competition

When only educational reforms are implemented, all the uneducated become educated. The oligopolist is still the only producer. Let m^E be the number of workers he employs in the managerial positions and l^E be the number in laborer positions. Since workers are all educated, they must divide themselves into these positions so that marginal products in the manager and laborer position are

⁷ The educated would work as laborers only if their marginal product is below that of laborers. This would require $\frac{\bar{e}}{\bar{u}} \geq \frac{\alpha}{\beta}$, which is not possible by assumption.

equal. This implies $\theta\alpha(m^E)^{\alpha-1}(l^E)^\beta = \theta\beta(m^E)^\alpha(l^E)^{\beta-1}$, which simplifies to $\frac{m^E}{l^E} = \frac{\alpha}{\beta}$. Also, we

know that the total workers employed should equal the total available so $m^E + l^E = \bar{e} + \bar{u}$. From these two equations, we can solve for l^E and m^E . We have

Lemma 1: Total production increases with education. Both the oligopolist and the uneducated are better off with education and no competition than with no reforms. The educated are worse off.

Proof: We have just shown $\frac{m^E}{l^E} = \frac{\alpha}{\beta}$. But by assumption $\frac{\alpha}{\beta} > \frac{\bar{e}}{\bar{u}}$. Therefore, $\frac{m^E}{l^E} > \frac{\bar{e}}{\bar{u}}$, and since

all workers are used in both situations, it must be that $\bar{e} < m^E$ and $\bar{u} > l^E$. Given diminishing marginal productivity of both managerial and labor input, it must be that managers get a lower wage than in the status quo while laborers get a higher wage than in the status quo. As a result, managers are worse off while laborers are better off. It is easy to check that total production increases because more workers can now be deployed in the higher marginal productivity activity of management. The oligopolist's profit is $\theta(m)^\alpha(l)^\beta - \alpha m\theta(m)^{\alpha-1}(l)^\beta - \beta l\theta(m)^\alpha(l)^{\beta-1} = (1 - \alpha - \beta)\theta(m)^\alpha(l)^\beta$.

Substituting $l = k - m$ where k is the (constant) total number of workers, differentiating w.r.t. m , and collecting terms, we get the oligopolist's profits increasing in the number of managers (and hence education) if $(1 - \alpha - \beta)[\alpha l - \beta m]\theta(m)^{\alpha-1}(l)^{\beta-1} > 0$. But the first term in parentheses is positive because of diminishing returns to scale and the term in the square brackets is positive so long as the marginal manager is more productive than the marginal laborer (and zero when the profit maximizing point of equal productivity is reached). Hence, the oligopolist is better off with education than in the status quo. Q.E.D.

It is worth noting that education is a reform that enhances the incomes of a voting majority of the population. The oligopolist likes it because it improves the quality of his workforce and the rents he can extract. The uneducated like it because it improves their productivity and their wages. However, the educated do not like it because it subjects them to greater competition from the currently uneducated, diminishing the positional rents they enjoy.

Interestingly, despite improving the lot of a majority of effective voters, an endowment-enhancing reform like education will rarely be undertaken. In fact, the oligopolist will never vote for it. We will see why shortly.

2.3. Partial Reform: Competition but no Education.

When only pro-competition product market reforms are enacted, the educated can open their own businesses. The uneducated can leave their jobs with the oligopolist, and after incurring search costs, can work for one of the businesses started by the educated. Note that while an educated worker may work for the oligopolist because of the latter's greater efficiency, θ , diminishing returns ensure he will never work for another educated worker. This is because he can always get more by opening his own firm (which has the same technology as the firm opened by any other educated worker) and get both the wage of a manager as well as the rents of a proprietor.

So post-reform, all newly opened firms will have at most one full-time manager. To save space, we examine only the case where the marginal productivity of managing is high enough that the manager does not also work part-time as a laborer – a sufficient condition is that given all other parameters, the number of uneducated is high enough relative to the educated (see footnote 4 for the exact condition).

Let l_E^C be the number of laborers employed in each new firm, l_O^C be the number of laborers and m_O^C be the number of managers employed by the oligopolist. In equilibrium, it must be that the wages an uneducated person earns as a laborer in a new firm, after incurring transportation costs, equal his wages with the oligopolist. So

$$(1-s)\beta (l_E^C)^{\beta-1} = \theta\beta (m_O^C)^\alpha (l_O^C)^{\beta-1} \quad (1.2)$$

Also, in equilibrium, an educated person who starts his own firm receives the difference between output and the wages of labor which is $(l_E^C)^\beta - l_E^C \beta (l_E^C)^{\beta-1} = (1-\beta)(l_E^C)^\beta$. So, in equilibrium, he should be indifferent between working for the oligopolist and working for himself, and

$$\theta \alpha (m_O^C)^{\alpha-1} (l_O^C) = (1-\beta) (l_E^C)^\beta \quad (1.3)$$

Finally, market clearing requires the total number of laborers equal the number of uneducated workers so

$$(\bar{e} - m_O^C) l_E^C + l_O^C = \bar{u} \quad (1.4)$$

These three equations can be solved to obtain all the variables of interest.⁸

Lemma 2: (i) There is a level of efficiency, θ^c , such that pro-competition reforms have no effect on outcomes if the oligopolist's efficiency is greater than θ^c . (ii) If $\theta < \theta^c$, the educated are better off with only pro-competition reforms than under the status quo, the oligopolist is worse off, and the uneducated may be better off or worse off depending on parameters.

Proof:

(i) We can solve for m_O^C , the managers employed by the oligopolist, which is increasing in θ . The level of θ at which m_O^C equals \bar{e} is the level beyond which all the educated stay employed with the oligopolist because their pay from doing so is higher than from starting their competing, but less efficient firms. It is easily checked that $\theta^c = (1-s)^\beta \left(\frac{\alpha}{1-\beta} \right)^{\beta-1} (\bar{e})^{1-\alpha-\beta}$.

(ii) The opportunities of the educated expand with competition, so their wage must increase. The oligopolist loses workers and has to pay the remaining ones more as a result of competition, so he is worse off. An example (see later) establishes that the uneducated may be better or worse off depending on parameters. Q.E.D.

⁸ For instance, $l_E^C = \frac{\bar{u}}{\bar{e} + \left(\frac{1-\alpha(1-s)-\beta}{1-\beta} \right) \theta^{\frac{1}{1-(\alpha+\beta)}} \left(\frac{\alpha}{1-\beta} \right)^{\frac{\alpha}{1-(\alpha+\beta)}} (1-s)^{\frac{\alpha-1}{1-(\alpha+\beta)}}$. Also, the

condition that the educated work only as managers in new firms is $\frac{1}{l_E^C} < \frac{\alpha}{\beta}$, which is true if \bar{u} is large enough relative to \bar{e} .

The intuition for why the uneducated may be worse off under competition is worth understanding. On the one hand, new firms started by the educated open up employment opportunities for the uneducated, potentially increasing their wage. On the other hand, there are fewer managers now working for the oligopolist. Since laborers are more productive working for the oligopolist when more managers supervise them, the loss of educated managers has a depressing effect on their wage. The net effect determines their attitude towards greater competition.

Corollary 1: If s is small and $\theta < \theta^c$, (i) a decrease in the efficiency of the incumbent oligopolist, θ , or (ii) an increase in the number of educated, \bar{e} , increases the preference of the uneducated for pro-competition reforms over the status quo.

Proof: See appendix.

Intuitively, for very low values of the oligopolist's efficiency relative to new entrants, the cost to the uneducated of the departure of managers from the oligopolist's employment is more than made up by the attractiveness of the new jobs these managers create by opening competing new ventures. By contrast, when the oligopolist is very efficient, the uneducated find staying in the oligopolist's employment very attractive, and the loss of the educated managers as a result of the opening of outside competitive opportunities is very damaging to their productivity and wages.

Similarly, when there are more educated relative to the uneducated, the loss of some managers – as a result of the outside opportunities emerging from pro-competitive reforms -- is less costly to the productivity of the uneducated employed by the oligopolist. Also, more outside jobs are created for the uneducated (given technology). As a result of both these effects, the preference of the uneducated for competition increases.

Example: Let $\alpha = 0.5$, $\beta = 0.3$, $\bar{u} = 100$, $s=0.2$. In Figure 1, we plot for different values of θ and \bar{e} the line that separates the region where the uneducated prefer competition to the status quo from

the region where they prefer the status quo. Note that the line slopes upward, consistent with corollary 1.⁹

In short, even though the uncompetitive status quo limits opportunities, it forces both the educated and the uneducated to work together. Reforms enhancing competition enhance opportunities, but primarily for the educated. The uneducated may be made worse off, as they face the still limiting environment, post-reform, but without the support of the educated. Hence they may oppose pro-competition reforms.

2.4. Comprehensive Reforms: Competition and Education.

Now consider both education and pro-competition reforms. Since workers are all now educated, they can open their own firms. Since no one wants to work for anyone else (except perhaps for the possibly more efficient oligopolist), each new firm will have only one self-employed worker, dividing time between managerial and labor activities.

In equilibrium, the educated worker's wage in any task with the oligopolist must equal his production from the outside option of self-employed production. Let m_e^{CE} be the time the self-employed worker spends on managerial tasks and l_e^{CE} be the time he spends on labor. Then it must be that if his marginal productivity at both tasks are equalized, $m_e^{CE} = \frac{\alpha}{\beta} l_e^{CE}$. Also, his time must be

divided only between the two tasks, so $m_e^{CE} + l_e^{CE} = 1$. Solving, we find his production in self

employment is $\left(\frac{\alpha}{\alpha + \beta}\right)^\alpha \left(\frac{\beta}{\alpha + \beta}\right)^\beta$, which must be the wage the oligopolist has to pay any

educated worker.

⁹ For all parameter values used for this example, the outcome under both partial and comprehensive reforms is (weakly) superior to the outcome under the status quo.

Lemma 3 (i) There is a level of efficiency, θ^{ce} , such that pro-competition reforms have no effect on outcomes, over and above the effect of education reforms, if the oligopolist's efficiency is greater than θ^{ce} .

If $\theta < \theta^{ce}$,

(ii) the uneducated worker always prefers educational and pro-competition reforms to the status quo.

The preferences of the oligopolist or the educated are parameter specific.

(iii) the uneducated worker also prefers education and pro-competition reforms to partial reform (that is, only education or only pro-competition reforms). The educated worker prefers education and pro-competition reforms to only education reforms, but prefers only pro-competition reforms to more comprehensive reforms. The oligopolist prefers only educational reforms to comprehensive reforms, while his preference between only pro-competition and comprehensive reforms is parameter specific.

Proof: (sketch)

(i) It is easily checked that the total number of workers employed post-reforms by the oligopolist is increasing in his efficiency, θ . θ^{ce} is then the level of efficiency at which all workers chose to work for the oligopolist rather than become self-employed. It is easily shown that

$$\theta^{ce} = \left(\frac{\bar{e} + \bar{u}}{\alpha + \beta} \right)^{1-(\alpha+\beta)} (\alpha + \beta)^{-(\alpha+\beta)}.$$

(ii) We have shown earlier that the uneducated worker prefers education to the status quo. Pro-competition reforms further enhance his opportunities, and thus must increase his income. We show with an example that the preferences of the oligopolist and the educated worker are parameter specific.

(iii) It is clear that relative to partial reform, comprehensive reform enhances the uneducated worker's opportunities, and hence is preferred. Similarly, relative to a state where only educational reforms have taken place, the educated worker prefers comprehensive reforms because his opportunities are enhanced. However, relative to a state where pro-competition reforms have taken place, the educated worker only faces more competition if educational reforms now take place, and hence he prefers the

state of partial reform. Finally, the oligopolist faces more competition if pro-competition reforms are added to educational reforms, so he prefers the partial reform state. If educational reforms follow pro-competition reforms, however, the supply of educated labor increases. On the one hand, he benefits from the greater supply of fungible educated labor, on the other hand, even the formerly uneducated workers can open new firms. The net effects are ambiguous. Q.E.D.

Corollary 2: (i) An increase in the number of the educated, \bar{e} , or a decrease in the efficiency of the incumbent's production technology, θ , increases the educated's preference for comprehensive reforms over no reforms. (ii) A decrease in the number of the educated, \bar{e} , or an increase in the efficiency of the incumbent's production technology, θ , increases the oligopolist's preference for comprehensive reforms over no reforms.

Proof: See appendix

Intuitively, the educated especially benefit from the outside opportunities created by pro-competition reforms if the number of educated is high (so that employment with the incumbent is not attractive because of competition with other educated). Furthermore, these outside opportunities are relatively more valuable if the oligopolist's efficiency is low. By contrast, the oligopolist values the increase in the number of potential managers as a result of education reforms, and this is particularly valuable if the pre-existing number of educated is low. The costs of increased competition are relatively lower if the oligopolist's efficiency is high so that fewer workers leave him for employment outside.

Example:

Let $\alpha = 0.5$, $\beta = 0.3$, $\bar{u} = 100$, $s=0.2$. In Figure 2, we plot for different values of θ and \bar{e} the line that separates the region where the educated prefer comprehensive reforms (to no reforms) from the region where they prefer no reforms (to comprehensive reforms). To illustrate that the oligopolist's preferences are parameter dependent, we know he prefers comprehensive reforms to the status quo when $\theta \geq \theta^{ce}$ because not only does his high efficiency allow him to retain all his

employees, but he also has more educated to employ in managerial positions. For $\bar{e} = 10$, $\theta^{ce} = 3.2$. The oligopolist's preference switches to the status quo (over comprehensive reforms) as soon as θ falls below 2.68.

We have analyzed the various situations of no, partial, and comprehensive reform. Now let us see how the electorate chooses to sequence reforms and what the outcomes are.

III. Electoral Choice and Reform Outcomes

We have argued that the educated always would prefer pro-competition reforms to the status quo, and are against education reforms. The uneducated like education reforms, as well as pro-competition reforms once they become educated. The oligopolist prefers the status quo to pro-competition reforms, and education reforms to the status quo.

What is ambiguous is (i) whether the educated prefer comprehensive reforms to the status quo, and (ii) whether the uneducated prefer competition to the status quo.¹⁰ We alter \bar{e} and θ to get representative cases. As before, $\alpha = 0.5$, $\beta = 0.3$, $\bar{u} = 100$, $s=0.2$.

3.1. Trapped in the status-quo.

Let the number of educated (relative to the uneducated) be small and the oligopolist be relatively efficient ($\bar{e} = 10$, $\theta = 1.5$ -- point A on figure 3.). Because they are few, and the oligopolist is tolerably efficient, the educated earn substantial rents from the status quo, and are against comprehensive reforms. As always, though, they would prefer partial, pro-competition reforms, to anything else. The uneducated dislike pro-competition reforms because employment under the efficient oligopolist is quite attractive, and the departure of even a few of the small numbers of the

¹⁰ The oligopolist's preferences can also be parameter specific. The oligopolist prefers comprehensive reforms to the status quo or pro-competition reforms only when \bar{e} (the number of educated) is very low and θ (the relative efficiency of the oligopolist) is very high. For the parameters we will consider, the required level of efficiency of the oligopolist is implausibly high. Therefore, we focus on conditions (i) and (ii) only.

educated from the ranks of management to start competing firms would erode the productivity of the uneducated.

In this situation, there is a majority against comprehensive reforms (the educated and the oligopolist), and against pro-competition reforms (the uneducated and the oligopolist), relative to the status quo. However, there is a majority for education reforms. Nevertheless, the status quo will be maintained and reforms will not be initiated. The reason is simple. If education reforms pass, the uneducated will receive education. But once everyone is educated, both the formerly uneducated and the educated will make common cause and vote for pro-competition reforms. As a result, a reform program that starts with education will always ends up in comprehensive reforms. This is why the oligopolist will vote against starting with education reforms even though he is not opposed to them in isolation. Thus in the first stage agenda setting vote, “no reform” will get a majority (from the oligopolist and the educated), and the status quo will prevail.¹¹

3.1. Elite Competition

What if the oligopolist is not very efficient and there are a moderate number of the educated ($\bar{e} = 30$, $\theta = 1.2$ -- point B on Figure 3). Because of the inefficiency of the oligopolist, the educated prefer comprehensive reforms to the status quo (even though it will increase competition from the uneducated). For the same reason, the uneducated prefer pro-competitive reforms to the status quo, even though they will not have the same opportunities as the educated. As always, both the uneducated and the oligopolist prefer education reforms to the status quo.

It turns out that even though, vis a vis the status quo, a majority is for comprehensive reforms (the educated and the uneducated) and for pro-competition reforms, and a different majority for

¹¹ The oligopolist will give “no reform” rank 1, “competition” rank 2, and “education” rank 3 (for these parameters, the oligopolist prefers partial pro-competition reforms to comprehensive reforms hence the ordering on the last two). The educated will give these choices ranks 2, 1, and 3 respectively, while the uneducated will rank them 2, 3, 1 respectively. Hence “no reform” will prevail.

education reforms (the oligopolist and the uneducated), only pro-competition reforms are enacted. As before, the oligopolist will not vote for education reforms for fear that it will inevitably lead to comprehensive reforms, which he dislikes more than the status quo or partial reforms. This means in the first stage agenda-setting vote, pro-competition reforms will be most favored, and it will receive the two votes in the second stage necessary for it to be implemented.¹² Unfortunately, however, after this neither the educated nor the oligopolist want further education reforms. As a result, sequencing matters, the reform effort will be stuck at partial reforms and only the elite educated will benefit significantly. Reforms will indeed favor the already privileged.

Note that partial, pro-competition, reforms are also possible if the educated do not prefer comprehensive reforms to the status quo and the uneducated prefer competition to the status quo. One set of parameters that would give this outcome is ($\bar{e} = 30$, $\theta = 1.7$ -- point C on Figure 3).

Interestingly, partial, pro-education reforms produce greater output in these circumstances, but the economy gets stuck in pro-competition reforms.

3.2 Comprehensive Reforms

Comprehensive reforms are possible – let the number of educated (relative to the uneducated) be large and the oligopolist be moderately efficient ($\bar{e} = 50$ $\theta = 2$ -- point D on Figure 3). The educated are for comprehensive reforms though, as always, they would prefer partial, pro-competition reforms, to anything else. The uneducated dislike pro-competition reforms because employment under the efficient oligopolist is quite attractive.

Interestingly, the uneducated’s dislike for pro-competition reforms ensures it will not get enacted before education reforms are passed. This is why the educated will agree to place education

¹² The oligopolist will give “no reform” rank 1, “competition” rank 2, and “education” rank 3. The educated will give these choices ranks 3,1,and 2 respectively, while the uneducated will rank them 3, 2, 1 respectively. As a result, competition will be first to be voted on in the second stage.

first on the agenda, and after it is enacted (with support from the educated and the uneducated), pro-competition reforms will be supported by the same majority.¹³ If instead, competition were placed first on the agenda, it would not get a majority (because the uneducated know that if they vote for it, no further reform will take place, and they will be worse off) and neither would education. Thus sequencing again matters, but this time the sequence that leads to comprehensive reforms is picked.

3.3. Summarizing the Results

Drawing from the example, Figure 3 presents a very bleak picture about the feasibility of comprehensive reform. Even in this rather simple framework, we find that comprehensive reforms are undertaken in only a very small subset of the situations where they do have majority support (the small triangle in the upper corner). Instead, partial reform seems to be the norm even in situations where comprehensive reforms have majority support. Specifically these partial reforms are pro-competition and increase opportunities for the already well-endowed. By contrast, reforms that expand access to endowments and expand the opportunities of the very poor, seem to be particularly difficult, and typically emerge as a package of reforms rather than on a stand-alone basis. The extremely privileged oligopolist fears them because they broaden solidarity and could lead to comprehensive reforms, the less privileged educated fear them because they create direct competition to their interests.

Finally, there are a large number of cases where the exploited cannot agree on any reforms because their rents dissipate to different degrees based on the nature of the reforms so the oligopolist can form the necessary blocking coalitions.

3.4. Discussion.

¹³ For the oligopolist “no reform” and “competition” share the top two ranks (because outcomes are status quo with both) and “education” ranks 3 (because education leads to comprehensive reform). The educated will have “no reform” and “competition” share the bottom two ranks, and give education rank 1, and the uneducated will rank them the same way as the educated. As a result, education will be first to be voted on in the second stage.

The model highlights the difficulty of enacting reforms that expand educational endowments, even when we move beyond an all powerful oligarchy. Unlike Bourguignon and Verdier (2000), where education tends to increase the political participation of the poor, and thus threatens to subject the rich to redistribution, education in our model has no direct effect on political power. In fact, the oligopolist welcomes the more skilled workforce he will have as a result of education. However, education does give the poor the ability to take advantage of pro-competition reforms, and thus makes them predisposed to further reform.¹⁴ It is the fear of comprehensive reforms that makes the oligopolist oppose education reforms.

Glaeser et al. (2005) also emphasize political participation when they argue that high levels of education make democracy more stable because the educated face lower costs of political participation. They are consequently more likely to support democracy even when it offers weak personal rewards. Their focus is not on the factors driving education. By contrast, our focus is not on the effect of education on political power or participation, but on incentives and the resulting support for reforms. Broader education builds more support for further education reforms as well as pro-market reforms because individuals perceive greater rewards from reforms.

In our model, a small, educated middle class typically sides with the oligopolist in opposing comprehensive reform, while a large middle class is far less obstructionist. It is in this sense that low average educational endowments are self perpetuating. Our model may thus offer an explanation for the persistence of both low educational endowments and anti-reform constituencies in poor countries even in an era of increasing democratization.¹⁵ The evidence in Easterly (2000) that a higher share of

¹⁴ Indeed, Rajan and Zingales (2004) find using the World Values Survey that attitudes towards competition become much more favorable as individuals become more educated, and this effect is particularly pronounced for the poor.

¹⁵ Rodrik (1993) and Wei (1997) offer a different rationale for why comprehensive reform may be opposed even when a majority benefits (ex post) from it. Essentially, if the benefits of reform are

(continued)

income for the middle class in a country is associated with better developmental outcomes is certainly consistent with our model. If we take the model very seriously, it also implies that we should see few countries with moderate amounts of education – once there is enough of an educated constituency, it will give up opposition to universal education. The key for development policy then is to get the country above the threshold.¹⁶ For countries that have lost significant segments of the middle class to emigration, a priority is to create conditions that can attract these expatriates back and create a stronger constituency for reform.

A second factor that may help reform is the efficiency of the elite. The more efficient the oligopolist is in our model, the more likely is reform. In the limit, if the oligopolist is so efficient that he faces no effective competition post-reform, he has no incentive to oppose reform. Put another way, the more his existing income is a rent based on restrictions on others, the more he will oppose reform. Thus countries with an inefficient elite are unlikely to reform (see, for example, Krueger (1974)).

External trade can be an important factor that subjects the incumbent elite in a country to competition and forces them to become efficient. The elite then have little incentive to oppose broad based reforms. This may explain why Rodrik, Subramanian, and Trebbi (2003) find that the effect of trade on growth is mediated by institutional outcomes, and why the giant companies in Finland or Sweden have not stood in the way of reform (see Rajan and Zingales (2003)).

The transition economies offer a tantalizing test case for our model, which would suggest the ease, durability, and broadness of reforms would be proportional to the level and distribution of education attained during communism, as well as the efficiency of large industries inherited from the

uncertain, and spread unevenly across the population, one can create examples where the electorate will vote against them even though more people benefit (ex post) from the reform than lose.

¹⁶ Clearly, our model speaks to both the level and the distribution of education. A high average level, but distributed very unevenly across the population, is unlikely to foster reform. In fact, to the extent that reforms can be tailored to the educational qualifications of the population, the distribution matters more than the level.

communist era. Such an analysis will, of course, be complicated by other factors such as the presence of external anchors such as EU membership.

A third factor that is outside our model, but could be easily incorporated, is growth. Clearly, economic growth can create greater opportunities, which in turn reduces the incentives of the oligopolist and the educated to defend their turf. Wiener (1991, p5) explains the greater resources devoted to tertiary education in India relative to the resources devoted to primary education, and the absence of legislation calling for compulsory education as driven by the predominant view amongst the middle class that education is

“a means of maintaining differentiations among classes, and concerns that “excessive” and “inappropriate” education for the poor would disrupt existing social arrangements.”

This state of affairs is changing, and with greater education, and the broader opportunities created by economic growth, more resources are being devoted by successive governments to mass education. More generally, the improvement in institutional outcomes documented in Johnson, Ostry, and Subramanian (2005) as a result of growth spurts for poor countries with high initial education and a competitive external sector, is consistent with the implications of the model. But this suggests that one way to change factor endowments (and, as a result, constituencies and institutions) is through good policies that create growth and opportunities. Clearly, this is a more feasible agenda than one that demands a change in institutions.

Finally, our paper emphasizes the importance of sequencing of reforms. Often, it is felt that the strengthening of property rights and the expansion of market opportunities will help the very poor (see, for example, De Soto (1989,2002)). But the lack of endowments, especially of education, may leave the poor unprepared for the market economy. In a second best world, the expansion in opportunities for the middle class may come at the expense of the poor. Perhaps then, in some situations of extreme inequality, it may be wiser to focus first on broadening the access to endowments. If market oriented reforms then follow, they may fall on more fertile ground.

3.5. Why did some countries promote mass-education?

We have emphasized interest group politics as one rationale explaining the persistence of low levels of education. Forces outside economics have, however, played an important part in helping some countries overcome the natural incentives of interest groups. Often, though not always, these came into play in periods when the competitive concerns we have documented were muted by feudal ties and obligations, or by communist state structures.

Perhaps the strongest force has been religion. As suggested in the introduction, Protestant leaders believed strongly in the value of personal knowledge of the Scriptures, unmediated by the Church, and hence emphasized education. As early as 1524, Martin Luther sent a letter to German municipalities insisting it was their duty to provide schools and the duty of parents to educate their children. In 1647, Massachusetts passed the Old Deluder Satan Law requiring local authorities to set up compulsory elementary schools. The law was so-called because the preamble said the old deluder Satan kept men from knowledge of the Scriptures (Wiener, 1991).

Nationalism seems to have been a second factor. The French government, for example, tried to break the hold of the Catholic church on education by creating state-run primary schools, forcing religious schools to follow an official curriculum, and employing teachers as civil servants (Vaughan and Archer (19xx)). In Japan, the Tokugawa elite believed education would make the masses more moral and more obedient (see Dore (1965)). In fact, a high level of literacy on the eve of the Meiji Restoration facilitated the introduction of compulsory education by the state in 1872 (Wiener (1991)). The Japanese concern for education also made its way into its colonies, Korea and Taiwan, though the Korean emphasis on mass education may have been spurred in part as a way of building national consciousness against Japanese influence (Wiener (1991)).

Communism has also been a strong force. Wiener (1991, p163) argues that while the rulers of imperial China regarded mass education as a political threat, the post-imperial regimes saw it as a way to bridge the differences between the elite and the masses, and of developing China as an

industrial and military power. The Chinese were not uninfluenced by Japan, whose success they saw as due to its emphasis on education. Thus again, national rivalry can also help in breaking the hold of narrower domestic interest groups.

Finally, from a policy perspective, the emphasis on expanding access to education placed by development agencies like the World Bank or the I.M.F. seem very appropriate. In addition, land reform, and expanding access to finance may create a broader constituency for pro-market reforms than many countries now possess.

Conclusion

Plus que ca change, plus que c'est la meme chose. The development literature was focused on endowments, especially the role of education in development (see, for example, Easterlin (1981)). The more recent focus has been on institutions. Yet the policy implications of this focus have been surprisingly thin. Which institutions should we create? And how do we create them (see WEO (2005) for a discussion)? Our paper suggests that institutions are unlikely to be effective in a vacuum. In fact, changing explicit institutions without changing the constituencies backing them is likely to be an exercise in futility, for the constituencies against change will find a way around the constraints imposed by the institutions.

Rather than focusing on institutions, we should focus on the constituencies that demand them. Such a focus shifts the debate, we believe, back to factor endowments. How do we change factor endowments in a poor society, especially if dominant interest groups oppose such change? From the perspective of development, this may be a more fruitful question than the question of how we change institutions.

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Appendix

Proof of Corollary 1: (i) Under the status quo, the uneducated get $\theta\beta(\bar{e})^\alpha(\bar{u})^{\beta-1}$. With competition, they get $(1-s)\beta(l_E^C)^{\beta-1}$. Therefore, the difference in income they get between competition and the status quo decreases with θ if $\frac{(l_E^C)^{\beta-1}}{\theta}$, or equivalently, if

$$\frac{1}{\theta^{1-\beta} l_E^C} \tag{1.5}$$

decreases with θ .

We know from solving the equations in the text that

$$l_E^C = \frac{\bar{u}}{\bar{e} + \left(\frac{1-\alpha(1-s)-\beta}{1-\beta}\right) \theta^{\frac{1}{1-(\alpha+\beta)}} \left(\frac{\alpha}{1-\beta}\right)^{\frac{\alpha}{1-(\alpha+\beta)}} (1-s)^{\frac{\alpha-1}{1-(\alpha+\beta)}}} \tag{1.6}$$

Substituting (1.6) in (1.5), differentiating w.r.t. θ and simplifying, we get (1.5) decreases in θ if

$$-\frac{1}{1-\beta} \frac{\bar{e}}{\bar{u}} + \frac{1}{\bar{u}} \left(\frac{1-\alpha(1-s)-\beta}{1-\beta} \right) \left(\frac{\alpha}{1-\beta} \right)^{\frac{1-\beta}{1-(\alpha+\beta)}} (1-s)^{\frac{\alpha-1}{1-(\alpha+\beta)}} \theta^{\frac{1}{1-(\alpha+\beta)}} \quad (1.7)$$

Clearly the sign of (1.7) can be positive if θ gets large. However, we know that the maximum value of θ where competition creates jobs outside the oligopolist is θ^c (see lemma 1) where

$$\theta^c = (1-s)^\beta \left(\frac{\alpha}{1-\beta} \right)^{\beta-1} (\bar{e})^{1-\alpha-\beta} \quad (1.8)$$

If (1.7) is negative even when $\theta = \theta^c$, then (1.5) decreases in θ . Substituting (1.8) for θ in (1.7), and simplifying, we get

$$\frac{\bar{e}}{\bar{u}} \left(\frac{1}{1-s} - \frac{1}{1-\beta} - \frac{\alpha}{1-\beta} \right) \quad (1.9)$$

Where the term in parentheses is negative when s is small (more precisely, smaller than $\frac{\alpha+\beta}{\alpha+1}$).

(ii) Following a similar methodology, the difference in income the uneducated get between competition and the status quo increases with \bar{e} if

$$\frac{1}{I_E^C (\bar{e})^{\frac{\alpha}{1-\beta}}} \quad (1.10)$$

increases with \bar{e} . Differentiating (1.10) w.r.t. \bar{e} , and substituting

$$m_O^C = \theta^{\frac{1}{1-(\alpha+\beta)}} \left(\frac{\alpha}{1-\beta} \right)^{\frac{1-\beta}{1-(\alpha+\beta)}} (1-s)^{\frac{-\beta}{1-(\alpha+\beta)}}, \text{ we get a positive number if}$$

$$(1-\alpha-\beta)\bar{e} - \left(\frac{1-\alpha(1-s)-\beta}{(1-s)} \right) m_O^C > 0 \quad (1.11)$$

But the number of managers is bounded above by the number of educated so $m_O^C < \bar{e}$ when $\theta < \theta^c$, so when s is small, the inequality always holds. Q.E.D.

Proof of Corollary 2.

(i) With education and competition reforms, the manager's (or laborer's) income is

$$\left(\frac{\alpha}{\alpha+\beta} \right)^\alpha \left(\frac{\beta}{\alpha+\beta} \right)^\beta \quad (1.12)$$

which is independent of θ and \bar{e} . By contrast, the educated manager's income with no reforms under the status quo is $\theta\alpha (\bar{e})^{\alpha-1} (\bar{u})^\beta$ which increases in θ and decreases in \bar{e} . Thus the educated's preference for the status quo increases in θ and decreases in \bar{e} .

(ii) The oligopolist's income with no reform is given by $(1-\alpha-\beta)\theta (\bar{e})^\alpha (\bar{u})^\beta$, while with reforms it is $(1-\alpha-\beta)\theta (m_O^{ce})^\alpha (I_O^{ce})^\beta$. Therefore, their preference for comprehensive reforms

over no reforms increases as $(m_o^{ce})^\alpha (l_o^{ce})^\beta - (\bar{e})^\alpha (\bar{u})^\beta$ increases. We know by solving for m_o^{ce} and l_o^{ce} that

$$m_o^{ce} = \alpha \theta^{\frac{1}{1-(\alpha+\beta)}} (\alpha + \beta)^{\frac{\alpha+\beta}{1-(\alpha+\beta)}}, \quad l_o^{ce} = \beta \theta^{\frac{1}{1-(\alpha+\beta)}} (\alpha + \beta)^{\frac{\alpha+\beta}{1-(\alpha+\beta)}}$$

which increase in θ , while \bar{e} and \bar{u} are obviously constant in θ . Thus the oligopolist's preference for comprehensive reforms increase in θ . By contrast, m_o^{ce} and l_o^{ce} do not vary with \bar{e} while $(\bar{e})^\alpha (\bar{u})^\beta$ increases. Hence the oligopolist's preference for comprehensive reforms decreases in \bar{e} . Q.E.D.

Figure 1: Preferences of Uneducated -- Status Quo vs Pro-Competition Reforms

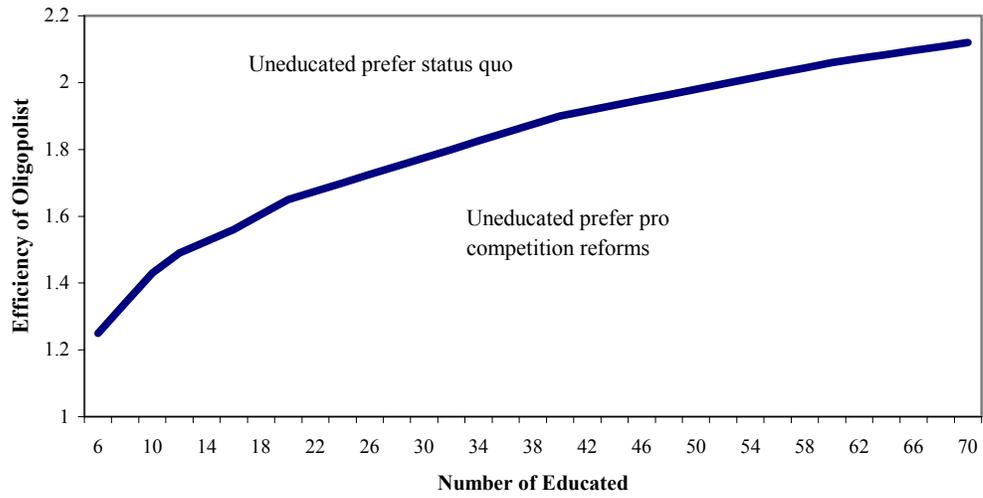


Figure 2: Preferences of Educated: Comprehensive Reforms vs Status Quo

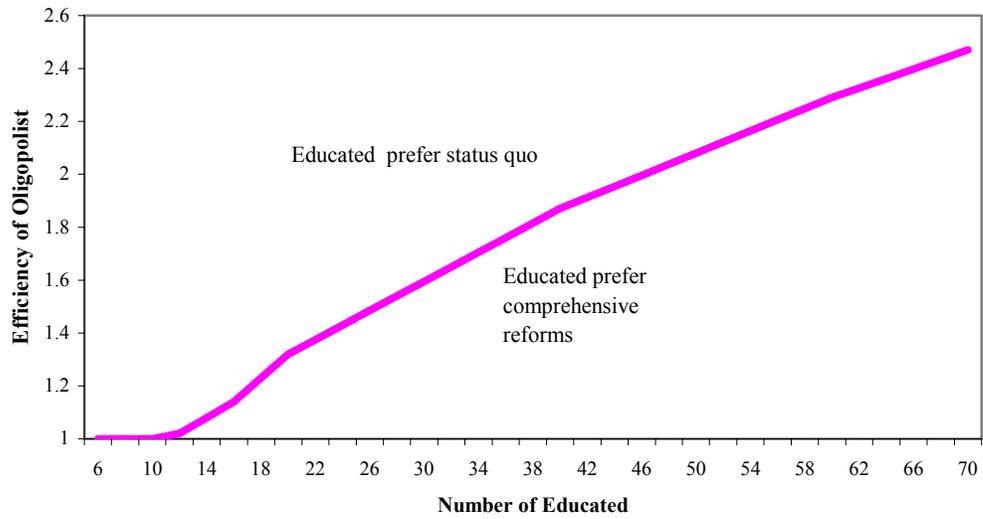


Figure 3: Reform Outcomes

