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The Persistence of Underdevelopment: The Role of Constituencies and Competitive Rent Preservation[1]

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Why is underdevelopment so persistent? I argue that initial inequality in endowments and opportunities, together with low average levels of endowments, can create constituencies in a society that combine to perpetuate the status quo, even though the status quo hurts them collectively. Each constituency prefers reforms that preserve only its rents and expand its opportunities, so no comprehensive reform path may command broad support. Though the initial conditions may well be a legacy of the colonial past, persistence does not require the presence of coercive political institutions. This may be one reason why underdevelopment has survived independence and democratization.

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Why is underdevelopment so persistent? Why is the legacy of history so important in the growth of nations? A growing consensus in recent years suggests this is because in many underdeveloped countries, a privileged elite maintain their rents by forcing suboptimal policies on the rest of the population through oppressive political institutions. The persistence of those political institutions is then the deemed to be the cause for the persistence of underdevelopment. Yet political institutions do change. Unfortunately, underdevelopment has survived emancipation, independence, and even democratization. Unless these democracies are a complete sham – and no one witnessing elections in poor countries like India could conclude that – the question becomes even more compelling; Why choose poverty?

I will argue in this paper that initial inequality in endowments and opportunities can create constituencies that support bad policies that reproduce those initial constituencies over time – that is, the specific configuration of initial inequality, combined with low levels of endowment, can itself perpetuate underdevelopment, without any need to appeal to oppressive political institutions that give all the power to the elite. In fact, I will show that a democracy can sometimes be worse than a dictatorship in promoting development, and that the underprivileged can oppose reform as strongly as the privileged – an otherwise puzzling real-life phenomenon.

Specifically, let a constituency be a group where each member has the same factor endowments, and therefore similar preferences over policies even without being organized.[2] I model an economy with three possible constituencies: an oligopolist (or oligarchs), the educated (or a middle class), and the uneducated (or the poor). The oligopolist owns a firm – initially the only firm in the economy -- which has two types of positions: more productive managerial positions and less productive laborer positions. I assume diminishing returns to scale, so the oligopolist makes significant rents. While anyone can be a laborer, only the educated can work as managers. In addition to managerial jobs, the educated have the choice of working as doctors, providing essential medical services to everyone in the economy.

[2] I prefer the term constituency rather than interest group or class. Interest groups (e.g., textile workers) typically are much narrower than my notion of constituency (e.g., the uneducated), and imply organization (and thus, possibly, institutions), while the term "class" has prior associations (e.g., linked to the ownership of the means of production) that may confuse rather than enlighten.

In this simple framework, I examine the support for two kinds of policies that are generally thought to be necessary for development: ones that increase competition by allowing the educated also to open up firms (broadly termed pro market reforms, which include a strengthening of property rights and expansion of access to finance) and ones that increase access to endowments such as education. I assume initially an imperfect democracy – that while the oligopolist has no institutionalized power of coercion, because of a combination of money power and numbers each of the three constituencies has one vote. Reforms that get a majority (that is, two out of three votes) are enacted. Also, unlike prior work, I do not assume that reforms directly affect political participation and thus voting power. Instead, they only affect economic outcomes and, thus, choices. The interesting result is that under plausible conditions, there is no equilibrium where comprehensive reforms (that is, enacting both reforms) take place. In particular, reforms expanding access to education never take place, even though the direct effect of education is to make a majority better off. Moreover, under a variety of circumstances, the inefficient status quo prevails.

The intuition 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 reduce their rents from opportunities open only to the educated. 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 vote for education, they will have a workforce (formerly uneducated and the formerly educated) that is united in interests. This enlarged constituency will then push for pro-market reforms. To forestall the greater loss from pro-market reforms, the oligopolist will vote with the educated against expanding education.

If education reforms are unlikely to be enacted, the uneducated may turn against pro-market reforms, preferring the status quo instead. 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 opportunities of the educated may worsen the conditions of the uneducated: The uneducated benefit from the status quo where the educated have low productivity, and hence low wages, in manufacturing, because it also implies that other essential services provided by the educated – such as healthcare -- are cheap. But greater income generating opportunities for the educated as a result of pro-market reforms will lead to higher prices for the services provided by the educated. Indeed, under a variety of circumstances, most typically when the capacity of the economy to provide services is limited because of the small initial numbers of educated and their low productivity in service provision, the real wage of the uneducated can fall after reforms, even though their own employment opportunities improve.

More generally, the status quo in an underdeveloped country constrains the opportunities of all constituencies except the elite. If we assume the constrained are one uniform constituency, they would be unified in their desire for reform. It is then puzzling why reforms do not take place, and the immediate diagnosis is the overwhelming power, de facto or de jure, of the elite. The solution to the problem of underdevelopment then seems to be destroy the power of the elite, often through reform of the oppressive political institutions. Yet political reform rarely seems to be key to economic growth.

In reality, the constrained in an underdeveloped country consist of multiple, unequal, constituencies. Matters are no longer as simple as in the two-constituency economy. Each reform typically expands the opportunities of a hitherto constrained constituency and reduces the rents of the elite but its effects on the other constituencies can be uncertain. Indeed, the disproportionate expansion of opportunities for one formerly constrained constituency can make other constrained constituencies worse off. As a result, the constrained may not act as a unified collective. Instead, they may act like crabs in a bucket, willing to pull down any crab that appears to be climbing out, with the active help of the elite oligopolist, who prefers them all to stay in the bucket. The oligopolist may even forego some reforms that could enhance his rents, for fear that they would unify the crabs in the bucket and allow them to overwhelm him. Competitive rent preservation ensures the collective choice is indeed poverty.

I also examine the effect of political institutions other than imperfect democracy. While the unrealistic ideal of perfect democracy would achieve comprehensive reforms in my model, that is not very surprising because perfect democracy ensures that amongst the constrained, the preferences of only one, the most populous and most constrained, constituency, matter.[3] More interesting is to examine a plutocracy, where the wealthy oligopolist initially has all the power. In a plutocracy, power can change over time, based on how wealth changes. Two results stand out. First, the plutocracy may result in more reforms than an imperfect democracy, even though political power is more concentrated – indeed because of it. So democratization need not lead to more reform. Second, to the extent that political institutions can be changed by those in power, the oligopolist may opt for

[3] There is, of course, an entire literature on why the tyranny of the majority has its own problems.

democratization when he knows his power in the plutocracy is ebbing, because he welcomes the paralysis that an imperfect democracy induces. This may partially explain why it is so hard to find an effect of democratization on growth – democratization is often endogenous.

Given that the constituencies are not organized groups, negotiated deals between them are unlikely. Furthermore, because it is not a “bad” equilibrium, but instead a bad configuration of interests that results in reform paralysis, coordination is unlikely to result in better outcomes. Even if we consider the possibility of negotiated deals, the difficulty of committing to the compensating transfer on the one hand and the fear of additional rent-seeking generated by the transfers on the other will still limit reforms.

The paper points to two related factors that might hinder development in an economy. The first is the inequality of endowments that will result in multiple constituencies, each of which sees reforms differently. The second is limited capacity. Reforms that expand opportunities will raise the price of capacity, and increase costs for all, including those who do not have the endowments to take advantage of the reforms. Lower the initial capacity, greater the price effects and greater the resistance to reforms. The model offers a characterization of situations where reforms might be relatively easier. In particular, homogenous and relatively equal populations, with significant endowments, may see reforms the same way, and thus be more open to reforms.

My analysis 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 (1999)), 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-ridden society.

This offers an alternative to the institutional view of development (see Hoff (2003) for an excellent survey), which suggests that persistent coercive political institutions, set up to assert the power of a ruling elite in the distant past, serve to entrench the elite and their sub-optimal self-interested policies even today, when they have lost their initial sources of power. While I do not have space in this paper to offer a full contrast between my view and the institutional view (see Glaeser et al. (2004) for an important early critique of the institutional view), whether institutions or self-perpetuating rent-preserving constituencies are the ultimate source of persistence, is not just a matter of semantics. First, to the extent that the persistence of bad institutions is not the primary explanation for underdevelopment, 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 (and, later, I discuss exogenous factors that might be helpful), 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 democratic 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.

The rest of the paper is as follows. In section I, I present a framework for the model, in section II, I analyze outcomes under different scenarios, in section III I determine the resulting political equilibria, in section IV I discuss extensions and implications for a theory of underdevelopment, in section V, I discuss policy implications and conclude.

I. The Framework

1.1. Good production technology and endowments

Consider an economy with three types of agents: incumbent oligopolists, educated workers, and uneducated workers. The economy starts out with each oligopolist having a production technology that enables him to produce $\theta m^{\alpha} l^{\beta}$ of a good 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. I 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. Managerial positions are more productive than laborer positions – as in a production hierarchy where managers supervise workers (see Rosen (1982), hence (iii).
In what follows, I normalize the number of oligopolists to one (knowing that there are competing oligopolists with the same technology in the background). The oligopolist is educated and is different from other educated workers only in that he happens to own the goods production technology.

Other than the oligopolist, the number of educated (henceforth, all quantities are per oligopolist) is initially $\bar{e}$ and the number of uneducated is $\bar{u}$. In a developing country with substantial inequality, the number of uneducated workers will be large compared to the number of educated, who will in turn outnumber the oligopolist. Therefore

Assumption 2: $\bar{u} >> 1 + \bar{e} >> 1$

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.

1.2. Services consumption and production.

Each individual requires one unit of specialized professional services per period to survive – think of these as essential medical services provided by doctors, for example. Only the educated can provide these services, and each educated person has to choose between working in goods production or producing professional services. If she chooses the latter, she can produce γ units of services. It must be that $\gamma > (\frac{1+\bar{e}+\bar{u}}{1+\bar{e}})$ so that the number of educated is sufficient to provide services for everyone (left alive) in the economy.

1.3. Reforms

Without reforms, everyone who chooses to produce goods has perforce to work for the oligopolist. I consider two reforms. The first expands *access* to factor endowments. Specifically, *education* reforms allow all uneducated workers to receive an education. For simplicity, I assume there are no costs to this reform, and the uneducated can then obtain education for free.[4]

The second reform expands *opportunities* by increasing the ease with which new goods-producing businesses can be set up. The precise nature of this reform can range from a strengthening of property rights to a removal of licensing laws and other bureaucratic barriers to entry. Such *pro-market* reforms allow the educated to set up businesses, and produce $m^{\alpha} l^{\beta}$. Uneducated workers do not have the capacity to open their own businesses, but they can quit their jobs with the oligopolist and work as laborers in these new businesses.

Under the status quo, the oligopolist suppresses competition through a variety of means. These will typically impose substantial inefficiencies in goods production – because the lack of competition will directly increase X- inefficiencies and because the means by which the oligopolist suppresses competition, such as keeping the financial system underdeveloped, will indirectly increase

[4] In practice, education is costly and disagreement on how this cost should be allocated may block an education reform. In this model I show that education reform might not be approved even if we ignore these costs.

inefficiency. Therefore, I assume $\theta < 1$. That is, the oligopolist's goods production technology under the status quo is less efficient than the technologies available after pro-market reform.

Note that each reform increases total output, education reforms because the marginal product of a manager is higher than that of a laborer, and pro-market reforms because, with greater efficiency of entrants and decreasing returns to scale, more entry implies higher output. Hence, the model is structured so that it is always efficient to have a comprehensive reform. The question, then, is whether the constituencies will allow it.

To abstract from problems relating to the transition phase, I assume that reforms can be implemented immediately. In practice, it takes time to educate large segments of society, which may further hamper the consensus for reforms.

1.4. Preferences

Individuals of a type (that is, the initially uneducated, the educated, or the oligopolist) do not have different preferences from anyone else of their type, hence it is reasonable to assume that they express their preferences as a single collective, even though they may not be organized. I shall term each set of such individuals a constituency. Each constituency is forward looking, and evaluates the consequences of its current choices on future choices and outcomes. It chooses the option that maximizes the present value of its future income (net of what it pays for the services it consumes inelastically), where δ is its discount rate.[5] I will consider three possible reform strategies – education only, pro-market reforms only, or both, that is, comprehensive reforms.

II. Outcomes under various strategies

Let us first examine outcomes under various reforms (and the status quo), after which we will discuss voting. Superscript S denotes the status quo, E, education reforms, P, pro-market reforms, and C comprehensive i.e., education and pro-market reforms.

2.1. Status Quo.

Since each individual demands a unit of (the essential) services, total demand for services is $1+\bar{e}+\bar{u}$, and the number of educated producing services is $\frac{1+\bar{e}+\bar{u}}{\gamma}$. Since the oligopolist is also

[5] In other words, they maximize the consumption of goods, which is the appropriate metric since their consumption of services is inelastic.

educated, the number of educated not involved in producing services is $m^S = 1 + \bar{e} - \left(\frac{1+\bar{e}+\bar{u}}{\gamma}\right)$.

Under the status quo then, per period production of goods is then $\theta\,(m^S)^\alpha(\bar{u})^\beta$, where the educated who are not engaged in producing services work as managers producing goods and the uneducated work as laborers.[6]

Because the labor market is competitive (between oligopolists), each worker gets his marginal product as wage. Each manager gets $\theta\alpha\,(m^S)^{\alpha-1}(\bar{u})^\beta$ while each laborer gets $\theta\beta\,(m^S)^\alpha(\bar{u})^{\beta-1}$. Furthermore, because the educated have to be induced to provide services, the price of a unit of services in terms of goods, p, has to equalize the earnings of the educated in goods and services production, so $p = \frac{\theta\alpha\,(m^S)^{\alpha-1}(\bar{u})^\beta}{\gamma}$. Thus the price of services increases in the earnings of the educated from goods production, a feature which will be important in what follows. Net of the unit of services he has to purchase, each manager gets $\left(1-\frac{1}{\gamma}\right)\theta\alpha\,(m^S)^{\alpha-1}(\bar{u})^\beta$, while each laborer gets

$$\theta\beta\,(m^S)^\alpha(\bar{u})^{\beta-1} - \frac{\theta\alpha\,(m^S)^{\alpha-1}(\bar{u})^\beta}{\gamma} \tag{1.1}$$

It is easily seen that service productivity, γ, has to be greater than $\left(\frac{\alpha+\beta}{\beta}\right)\left(\frac{\bar{u}}{1+\bar{e}}\right)+1$ for (1.1) to be positive. Intuitively, if service productivity is too low, the price of services will be so high that laborers will not be able to afford it. Because the price of services is determined by the ratio of marginal productivity of the educated in goods production to their productivity in service production, this cannot fall until something else gives. In this neo Malthusian world, laborers will have to "die" due to lack of medical services until their marginal productivity is raised (and the marginal productivity of the managers falls) to the point that laborers can just afford medical services.

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[6] The educated would work as laborers only if their marginal product would otherwise be below that of laborers, i.e., only if $\frac{(1+\bar{e})}{\bar{u}} \geq \frac{\alpha}{\beta}$. But because there are fewer educated than uneducated by assumption 2, and $\alpha > \beta$ by assumption 1, this will never be the case.

Allowing for this possibility simply reduces the initial number of uneducated to the point they can afford to pay for services. So in what follows, we assume the initial conditions are such that

Assumption 3: $\gamma \geq \left(\frac{\alpha+\beta}{\beta}\right)\left(\frac{\overline{u}}{1+\overline{e}}\right)+1$

Now let us examine what happens under each reform.

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 in managerial positions and l^E be the number in laborer positions. Since workers are all educated, they must get a common wage. The oligopolist will thus set marginal products in the manager and laborer position to be equal. This implies $\theta\alpha(m^E)^{\alpha-1}(l^E)^{\beta} = \theta\beta\left(m^E\right)^{\alpha}(l^E)^{\beta-1}$, which simplifies to $\frac{m^E}{l^E} = \frac{\alpha}{\beta}$. Also, the total workers employed in production should equal the total available so $m^E + l^E = \left(1+\overline{e}+\overline{u}\right)\left(1-\frac{1}{\gamma}\right)$.

From these two equations, we can solve for l^E and m^E. We have

Lemma 1: The uneducated are better off after education reform than under the status quo, while the educated are worse off. The oligopolist may be better or worse off depending on parameters.

Proof: See appendix.

The educated do not like education reforms because it subjects them to greater competition from the currently uneducated, diminishing the positional rents they enjoy from goods production. Their earnings from services production also decrease commensurately. The uneducated like education reforms because it improves their productivity and their wages, while reducing what they have to pay for services. The oligopolist's position is ambiguous because, in theory, he wears two hats. His net income is

$$(1-\alpha-\beta)\theta m^{\alpha} l^{\beta} \quad + \quad \alpha\theta m^{\alpha-1} l^{\beta}\left(1-\frac{1}{\gamma}\right) \tag{1.2}$$

The first term is his rent from the oligopoly, which is dependent on his margin of profits from production, $(1-\alpha-\beta)$, and total production, $\theta m^{\alpha} l^{\beta}$. Clearly, total production increases as a result of education reforms, because more workers can be placed in high productivity activities. So rents from oligopoly would push the oligopolist towards welcoming education reforms. However, the second term reflects the net income the oligopolist gets because he is also one of the educated (and thus works as a manager in his own firm). If oligopoly rents are small – either because profit margins are small ($\alpha + \beta \approx 1$) – or because the number of workers is small and production is small relative to managerial wages, then the oligopolist's incentives become aligned with the initially educated. It turns out that the oligopolist's preferences over education versus the status quo will be immaterial to the final outcome. Nevertheless, because the number of workers is large by assumption 2, so long as profit margins are not too small the oligopolist's focus will be on maximizing his oligopolistic rents. So he will prefer education over the status quo.

Even if it improves the lot of a majority of voting constituencies, an endowment-enhancing reform like education will not be undertaken. We will see why shortly.

2.3. Partial Reform: Pro-market competition but no education.

When only pro-market reforms are enacted, the educated can open their own businesses. Because the oligopolist loses his inefficient privileges, he will now be no different from any of the other educated. Diminishing returns ensure that an educated worker 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, there will be m^S firms, where m^S defined earlier is the number of educated not engaged in producing services. Each firm will be owned and managed by one of the educated, and will employ $l^P = \frac{\bar{u}}{m^S}$ uneducated laborers. The laborers will earn $\beta(l^P)^{\beta-1}$, the owner manager will get $(1-\beta)(l^P)^{\beta}$, and the price of a unit of service will be $\frac{(1-\beta)(l^P)^{\beta}}{\gamma}$.

Lemma 2: The educated are better off with only pro-market reforms than under the status quo. The oligopolist and the uneducated may be better off or worse off depending on parameters.

Proof: See appendix.

The earnings of the educated in production will now be higher, both because they are more productive, and because they get the rents from ownership. As a result, the price of services will also go up proportionally. The educated will be better off.

The position of the oligopolist is ambiguous for the reasons discussed above, and because he produces with a more inefficient technology under the status quo than after pro-market reforms. If his rents from oligopoly under the status quo are low (because the profit margin $(1-\alpha-\beta)$ is low, or because total production is low because productive efficiency θ under the status quo is low, or because there are only a small number of educated whose human capital he can exploit), then the oligopolist identifies with the educated and welcomes the opportunities pro-market reforms bring.[7] We have, ceteris paribus;

Corollary 1: (i) The oligopolist's net income under the status quo relative to his net income under pro-market reforms increases as his productive efficiency, θ, increases. (ii) If there is an $\bar{e}'$ such that the oligopolist prefers the status quo to pro-market reforms, he prefers the status quo to pro market reforms for all $\bar{e} > \bar{e}'$. If there is an $\bar{e}''$ such that the oligopolist prefers pro-market reforms to the status quo, he prefers pro-market reforms to the status quo for all $\bar{e} < \bar{e}''$. (iii) If there is an $\bar{u}'$ such that the oligopolist prefers the status quo to pro-market reforms, he prefers the status quo to pro market reforms for all $\bar{u} < \bar{u}'$. If there is an $\bar{u}''$ such that the oligopolist prefers pro-market reforms to the status quo, he prefers pro-market reforms to the status quo for all $\bar{u} > \bar{u}''$.

Proof: See appendix.

While there may be no value of $\bar{e}$ or $\bar{u}$ for which the oligopolist's preferences switch, corollary 1 (ii) and (iii) suggest that any such switching point will be unique.

Typically, in a poor country with a very small number of oligopolists and where the oligopoly is not too inefficient relative to the conceivable alternatives, oligopolist rents are high and the oligopolist has an incentive to preserve these rents by voting against pro-market reforms.

More interesting is why the uneducated may be worse off with pro-market reforms; Substituting $\bar{u} = l^P m^S$ in (1.1) and rearranging, we get the net earnings of the uneducated under the status quo to be

$$\frac{\theta}{(m^S)^{1-(\alpha+\beta)}}\beta(l^P)^{\beta-1} - \frac{\theta}{(m^S)^{1-(\alpha+\beta)}}\frac{\alpha}{\gamma}(l^P)^{\beta} \tag{1.3}$$

The first term is their earnings, the second is their cost of services. Therefore pro market reforms increase the uneducated's earnings by a factor of $\frac{(m^S)^{1-(\alpha+\beta)}}{\theta}$. This is composed of two effects. The first is the productivity of the goods production technology increases with reform by a

[7] If indeed the preferences of the oligopolist are for pro-market reforms, a natural question is why we come into the initial situation with the oligopolist maintaining his oligopoly. One explanation is that the environment for reforms got better recently (for instance, because the world became interested in foreign direct investment, expressing a willingness to share technology and improve productivity levels if the country allows entry).

factor $\frac{1}{\theta}$. Second, given the ratio of labor to managers, managers collectively make a lower contribution to productivity under the status quo because all managers are forced to work for the same firm. Intuitively, because of diminishing returns, managers crowd each other, an effect which is not present under pro-market reforms, where each manager can break away to form his own firm.

Turn next to the price of services. These are higher under reforms by a factor of $\left(\frac{(m^S)^{1-(\alpha+\beta)}}{\theta}\right)\left(\frac{1-\beta}{\alpha}\right)$. The first term is the increase in goods productivity we have just encountered, which should also increase the goods price of services. The second term, $\left(\frac{1-\beta}{\alpha}\right)$, which is greater than 1 because of decreasing returns, represents the increased earnings of the educated because they can now be owners, while earlier they could just be managers. What is clear is that pro-market reforms increase the uneducated's service costs by a greater factor than it increases their earnings, precisely because earning opportunities increase disproportionately for the educated – they can become entrepreneurs while the uneducated cannot. If the uneducated's service costs are high enough to begin with, relative to their income, they could be made worse off by reform. We have, ceteris paribus:

Corollary 2: (i) The net income of the uneducated under the status quo relative to their net income after pro-market reforms increases as the relative efficiency of the oligopolist, θ, increases. (ii) There is a γ' such that an uneducated worker prefers the status quo to pro-market reforms for all $\gamma < \gamma'$ and pro-market reforms to the status quo for all $\gamma > \gamma'$. (iii) There is an $\bar{e}'$ such that the uneducated worker prefers the status quo to pro-market reforms for all $\bar{e} < \bar{e}'$ and pro-market reforms to the status quo for all $\bar{e} > \bar{e}'$.

Proof: See appendix.

A higher relative efficiency θ of the oligopolist's technology under the status quo improves the uneducated's net earnings, and hence increases their preference for the status quo. More interesting, lower service productivity, γ, increases the size of service costs relative to earnings from goods. Given that the uneducated's service costs increase by a greater *factor* than do their earnings on pro-market reforms, it must be that for a low enough γ, service costs will be at a high enough level (relative to earnings) pre-reform, that they will increase by a greater *amount* than will earnings post reform, rendering the uneducated laborer worse off. The change in the number of the educated has a similar effect. Lower the number, higher will be the marginal productivity of the educated in manufacturing, and higher will be the size of service costs relative to laborer wages pre-reform.

In sum, the lack of outside opportunities for the educated under the status quo creates an implicit rent for the uneducated by reducing the price of services. With pro-market reforms, this price will explode. The uneducated will measure the loss of this implicit rent against the benefit of the higher productivity laborer positions that are created by the new firms opened up by the educated. The lemma above describes some conditions under which the loss of the implicit rent will outweigh the benefit of addition opportunities created by reform.

Example: Let $\alpha = 0.5$, $\beta = 0.3$, γ =36, $\bar{u} = 100$. In Figure 1, I 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.

2.4. Comprehensive Reforms.

Now consider both education and pro-market reforms, that is, comprehensive reforms. Since everyone is educated, and no one wants to work for anyone else, everyone opens a firm and divides their time between managerial and labor activities. Let m^C be the time the self-employed worker spends on managerial tasks and l^C be the time he spends on labor. Then it must be that if his marginal productivity at both tasks are equalized, $m^C = \frac{\alpha}{\beta} l^C$. Also, his time must be divided only between the two tasks, so $m^C + l^C = 1$. Solving, he produces $\left(\frac{\alpha}{\alpha+\beta}\right)^\alpha \left(\frac{\beta}{\alpha+\beta}\right)^\beta$ through self-employment. The price of services must then be $\frac{1}{\gamma}\left(\frac{\alpha}{\alpha+\beta}\right)^\alpha \left(\frac{\beta}{\alpha+\beta}\right)^\beta$.

Lemma 3 (i) The uneducated worker always prefers comprehensive reforms to the status quo or to partial reform (that is, either education only or pro-market reforms only); (ii) The educated worker prefers comprehensive reforms to only education reforms, but prefers pro-market reforms to comprehensive reforms. His preference between the status quo and comprehensive reforms is parameter specific. (iii) The oligopolist prefers pro-market reforms to comprehensive reforms. Thus, if he prefers the status quo to pro-market reforms (see lemma 2), he prefers the status quo to comprehensive reforms.

Proof: Omitted.

The uneducated worker is always better off when partial reforms become comprehensive, regardless of what the additional reform is. By contrast, the educated care very much whether the completion of reforms entails further opportunity (pro-market reforms added to prior education reforms) or further loss of rents (education reforms tacked on to prior pro-market reforms). The oligopolist's preferences are aligned with those of the educated after pro-market reforms are enacted. Further education reforms only enhance competition by giving the uneducated the ability to compete, so he opposes them.

Corollary 3: (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 net income from comprehensive reforms relative to maintaining status quo. (ii) There is a level of service productivity γ^{**} such that, ceteris paribus, the educated prefer the status quo to comprehensive reforms when $\gamma < \gamma^{**}$, and prefer comprehensive reforms to the status quo when $\gamma > \gamma^{**}$.

Proof: See appendix.

Intuitively, the educated especially benefit from the outside opportunities created by pro-market reforms if the number of educated is high (so that employment with the incumbent oligopolist is not attractive because the many educated themselves compete down wages). Furthermore, these outside opportunities are relatively more valuable if the oligopolist's efficiency is low. Finally, lower service productivity decreases the number of educated available for production, increases their earnings, and thus gives them greater rents to protect in the status quo.

Example:

Let $\alpha = 0.5$, $\beta = 0.3$, γ=36, $\bar{u} = 100$. In Figure 2, I plot for different values of θ and $\bar{e}$ the line that separates the region where the educated prefer comprehensive reforms (to the status quo) from the region where they prefer the status quo (to comprehensive reforms). In this example, total production when θ=0.9 and $\bar{e}$=12 is 11.25 under the status quo, 19.75 under pro-market reforms, 22.75 under education reforms only, and 64.75 under comprehensive reforms.

Interestingly, the best two reform outcomes will not be achievable under reasonable voting rules. In order to show this, I have to discuss how voting power and voting is determined. This is what I turn to next.

III. Electoral Choice and Reform Outcomes

3.1. Voting and Voting Power

In the basic model I assume that each strategy (amongst the reform strategies and status quo) is placed in pair-wise comparison with every other strategy, and the constituencies vote on which one they prefer. Each constituency has one vote for each comparison, with the weight of that vote – its voting power -- determined by the political system. A strategy is implemented only if it is preferred by a simple majority of the voting power in every pair-wise comparison it features in. If only partial reforms are implemented (e.g., education only) or the status quo is maintained, further reforms can be voted on in future periods. All votes take place at the beginning of each period.

Each constituency *i*'s voting power at time t, is $v_{it} = f(w_{it}, n_{it}) \geq 0$ where w_{it} is its aggregate wealth and n_{it} is the number of agents who belong to that constituency at time t. I assume $\sum_i v_{it} = 1$, $\frac{dv_{it}}{dw_{it}} \geq 0$, $\frac{dv_{it}}{dn_{it}} \geq 0$. Also, focusing on the case of a populous, unequal, developing country, we have $n_{u0} = \overline{u} > n_{e0} = \overline{e} > n_{o0} = 1$ and $w_{u0} = 0 < w_{e0} = w < w_{o0} = W$. Let us now consider different ways voting power can be allocated.

3.2. Pure Democracy

First consider what would happen under a pure democracy where $v_{it} = \frac{n_{it}}{\sum_j n_{jt}}$. In this case, the uneducated would have the majority vote, and they would vote for comprehensive reforms. This is the ideal case.

3.3. Imperfect Democracy

All democracies are imperfect. Money matters, if nothing else in securing advertising time to inform voters. 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. Let us therefore assume now that the combination of aggregate wealth and numbers results in each constituency having equal voting power, i.e., $v_{ut} = v_{et} = v_{ot} = 1/3$. If this is not a democracy, the vote each constituency possesses could be thought of more broadly as its influence over policies.

What is interesting here is not just that the first best is not implemented but that even policies that benefit a majority of the voting power will not be implemented. In what follows, let us examine the most plausible and interesting case where the oligopolist prefers the status quo to pro-market competition. Indeed, in many populous poor countries, the rents from oligopoly would indeed be large relative to any income an oligopolist might generate as an individual. It is also the more interesting case because the alternative case would have his interests aligned with the educated. The outcomes in the latter, two-constituency, world, with the educated having power, are well known.

If the rents from oligopoly are high, it is also likely the oligopolist prefers education reforms relative to the status quo – because that improves overall goods production and his rents. Again, this is the more interesting case to one where he is against education reforms. As we will see, in an imperfect democracy his preferences here will be unimportant for the final outcome. To understand why, we need to consider the dynamics.

3.3.1. Dynamic effects

Thus far, I have analyzed only the immediate consequences that a reform has on the payoff of each constituency. But reforms also impact the endowment of each group in the next period and, therefore, their preferences. In particular, consider education reforms. If it is implemented, the uneducated will receive education and the following period will make common cause with the initial educated constituency to vote for pro-market reforms. Because the constituencies together will have the majority, education reforms today will inexorably lead to comprehensive reforms next period. The consequences of considering the dynamics in this case are simple: the higher the discount factor, the more the future will matter, and the closer will a constituency's preference ranking for education reforms today drift towards its preference ranking for comprehensive reforms.

Let us assume a high discount factor in what follows (see footnote 8 for the case of a low discount factor). Preferences are straightforward and are given in Table 1. The oligopolist prefers the status quo to pro-market reforms, which he in turn prefers to comprehensive reforms. Given that education reforms increase his rents briefly but inevitably lead to comprehensive reforms, he ranks education reforms above comprehensive reforms but below pro-market reforms.

The educated prefer pro-market reforms to everything else, and dislike education reforms relative to the status quo, and education reforms relative to comprehensive reforms. The uneducated prefer comprehensive reforms to everything else, but also like education reforms relative to the status quo. What is left ambiguous is (i) whether the educated prefer comprehensive reforms to the status quo or not, and (ii) whether the uneducated prefer pro-market reforms to the status quo or not. Corollary 2 and 3 describe how these preferences vary with the oligopolist's efficiency θ and the number of educated $\overline{e}$. We then have four possible regions, regardless of the specific parameters of the example. Table 1 indicates the ranking of choices in each region for each constituency. For the example discussed so far, with $\alpha = 0.5$, $\beta = 0.3$, γ =36, $\overline{u} = 100$, the regions are as in Figure 3 (obtained by superimposing Figure 1 on Figure 2).

3.3.2. Trapped in the status-quo.

Let the number of educated (for a given number of uneducated) be low and the oligopolist be relatively efficient (area A on figure 3.). Because they are relatively few, and the oligopolist is efficient, the educated earn substantial rents from the status quo, and are against comprehensive reforms. As always, though, they would prefer partial, pro-market reforms, to anything else. The uneducated dislike pro-market reforms because employment under the relatively efficient oligopolist is quite attractive, and the prospect of paying even higher prices for services (than the already high current prices) after pro-market reform is daunting.

In this situation, there is a majority against comprehensive reforms (the educated and the oligopolist), against education (the educated and the oligopolist), and against pro-market reforms (the uneducated and the oligopolist) relative to the status quo. Hence, the status quo will obtain a majority in all pair-wise contests and be retained, allowing inequality and underdevelopment to persist.

3.3.3. Partial reforms

If the oligopolist is not efficient and the educated are numerous (area B in Figure 3), the uneducated prefer pro-market reforms to the status quo, and the educated prefer comprehensive reforms to the status quo. There is clearly a majority for pro-market reforms over the status quo (the educated and the uneducated) and for comprehensive reforms over the status quo (the educated and the uneducated). But when these reforms are compared, the oligopolist prefers to side with the educated in favoring pro-market reforms only, over comprehensive reforms. Thus the economy settles for partial pro-market reforms even though a majority supports comprehensive reforms over the status quo.

If the oligopolist is quite efficient but there are also a fair number of educated, the educated prefer the status quo to comprehensive reforms and the uneducated prefer pro-market reforms to the status quo (area C in Figure 3). Again, the status quo is not an option because the educated and uneducated prefer pro-market reforms over it, but further education reform is blocked by the educated and the oligopolist. Pro-market reforms are again the choice.

Finally, if the oligopolist is relatively inefficient but the number of educated is small (area D in Figure 3), the uneducated prefer the status quo to pro-market reforms while the educated prefer comprehensive reforms to the status quo. No option obtains a majority in all pair-wise contests, generating the so called Condorcet cycle (where, depending on the order in which contests are presented, different outcomes prevail). To determine a unique solution, I need to impose more structure on the voting game without skewing it. Let's assume, therefore, that all the reform strategies are ranked by each constituency. The strategy that has the lowest sum of ranks is chosen. If two strategies tie, a final vote between the two is held. As Table 2 suggests, the earlier choices continue to be preferred in regions A, B, and C, but we now get pro-market reforms in region D also (note that in this region, because the uneducated are made worse off by the reform, reforms increase inequality). More generally, pro-market reforms take place in the south east areas of Figure 3. Therefore, using corollary 2 and 3, and the analysis above, if agents do not discount the future heavily;

Lemma 4: (i) Education reforms never take place; (ii) For any $\overline{e}$, if there is a $\theta_{\overline{e}}$ such that pro-market reforms take place, they will take place for all $\theta < \theta_{\overline{e}}$; (iii) For any θ, if there is an e_θ such that pro-market reforms take, they will take place for all $\overline{e} > e_\theta$.

Endowment enhancing education reforms never take place. Partial, pro-market reforms are more likely to take place if the number of the educated (that is, the middle class) expands, or if goods productivity under the oligopolist worsen.

Finally, note that a decrease in γ shifts the uneducated's indifference curve between the status quo and pro-market reforms to the right in Figure 3, and thus shrinks the region in which reform takes place. Intuitively, ceteris paribus, the increase in service costs as a result of reforms will be higher when service productivity is low. This means the uneducated will tolerate greater productive inefficiency from the oligopolist, or require a greater number of the educated to offset the increase in service costs, before voting for pro-market reform. Put differently, low productivity in one sector can create resistance to reforms improving competition and productivity in another sector, leading to a low productivity status quo equilibrium.

3.3.4. The Difficulty of Comprehensive Reforms

Lemma 4 presents a very bleak picture about the possibility of moving away from the status quo. Indeed, under no circumstances are education reforms undertaken, suggesting the persistence of a grossly undereducated population in this economy. The underlying reason for too little reform is not because of the coercive power of the oligarchy as in other models. Indeed, the oligopolists have no more power than the other constituencies, and as we will see, might even reform more if they had more power. Too few reforms take place because of the active connivance of those whose opportunities and capacities are limited by the status quo today.

The reason is interesting. Typically, reforms expand choice and competition, as well as endowments and capacities. Therefore we think they should be welcomed by all except the very privileged rentiers. In an unequal and unreformed society, however, all manner of rents abound. It is not only the elite who enjoy rents, so in a manner do many other constituencies. The competitive attempt to preserve one's rents while limiting the rent of others is what leads here to reform paralysis.

Specifically, opportunity-enhancing reforms are welcomed by those who have the endowments to take advantage of them. But such reforms can also put tremendous pressure on the limited capacity of the economy (e.g., to provide services), which then serves as a tax on everyone, thus creating opposition to the reforms. But endowment- or capacity-enhancing reforms might be even more strongly opposed when opportunities are limited, because this dilutes the rents of those who have access to these opportunities by dint of their privileged access to endowments. The solution might be to expand opportunities and endowments at the same time, but clearly this does not command the support of those who can get everything they want, and preserve some rents, with much more selective reforms. The key insight here is that the rents of the underprivileged (both the educated and the uneducated) are not monotonically increasing in every reform. A related insight in this model is that the pro-market reforms that are actually enacted can make the poor uneducated worse off, even though competition increases, production expands, and jobs pay more. Reform and growth can be immiserizing for some.

A second, less-commented-upon, effect of reforms is to change constituencies and thus power. The oligopolist fears education reforms – not because the educated participate more, are more aware of the issues, or have a pre-disposition towards freedom – but because education reforms will create a united constituency for further reforms. Not only will the now larger constituency of the educated have similar preferences on economic issues, and thus be harder to divide or block, it is also likely to be more internally competitive and thus have fewer rents to protect.

A final effect is that of productivity in essential sectors (medical services in the model) that are not directly affected by the reform. To the extent that productivity, and thus capacity here, is low, these sectors compete for key factors (the educated) with the sectors that have been freed by reforms, excessively increasing the rents accruing to the key factors, and turning a number of constituencies who have not benefited from the reforms against it. Low productivity in essential sectors (which may be hard to reform) thus is an additional factor to the inequality and paucity of endowments in limiting reforms.[8]

3.4. Plutocracy and Dynamic Power Shifts.

Thus far, I have examined perfect democracy and an imperfect (but realistic) democracy. What if we had a plutocracy – where only the weight of money mattered for political power? In this case, we have $v_{it} = \dfrac{w_{it}}{\sum_j w_{jt}}$. Given our assumptions about initial wealth, the oligopolist's preferences will prevail initially. After that, however, political power will depend on the evolution of wealth. Let us examine what would happen, continuing to assume that the future is discounted very little, and assuming that all the income that accrues to a constituency (net of service consumption) adds to its wealth (or equivalently, assuming an equal propensity for other un-modeled forms of consumption out of income for all constituencies).

Over time, cumulated net income will dominate the effect of any initial distribution of wealth on the eventual distribution of wealth. Therefore, voting power will depend on the relative sizes of the net incomes of each constituency. Let us now examine outcomes.

3.4.1. Plutocracy and education.

Clearly, the oligopolist will opt for education reforms (in preference to the status quo) only if he can be assured that he will continue to have the voting majority post-reform, so that he can block any further pro-market reforms. This will depend on whether his net income post reform exceeds the sum of the share of the educated and the formerly uneducated. Simple algebra suggests that:

Lemma 5: In a plutocracy, the oligopolist will opt for education reforms in the initial period if and only if $(\alpha + \beta) \leq \frac{1}{2}$.

Proof: See appendix.

Intuitively, for the oligopolist to retain power, it is important that his profits be high post reforms relative to wages, which will be true only if returns decrease considerably with scale so that

[8] What if the discount factor is low so that everyone cares only about their income in the period after reform, and not in the distant future. Assuming that the uneducated prefer education only to pro-market reform only (the results are not dramatically different if we assume the opposite), we get Condorcet cycling in all four areas. If we impose further structure by choosing the reform strategy with the lowest sum of ranks, we get comprehensive reforms only in area D.

marginal productivity and, thus, wages, for working constituencies are low. In other words, a plutocracy may produce education reforms, but only if the power of the elite is likely to remain undisturbed by the reforms.

What if this condition is not satisfied? Now the oligopolist will not choose education reforms, for he knows that it will inevitably lead to his least preferred alternative, comprehensive reforms. The extent of reform now will depend on the preferences (and wealth) of the different constituencies.

3.4.2. The Rise of the Bourgeoisie

It is easily shown that the aggregate income of the educated will always exceed the aggregate income of the uneducated under either the status quo or under pro-market reforms. Then

Lemma 6: (i) If $\left(\alpha+\beta\right)>\frac{1}{2}$ and $(\bar{e}-1)\alpha>(1-\alpha)m^S-\frac{(\bar{u}+1-\bar{e})\alpha}{\gamma}$, where m^S defined earlier is the number of educated engaged in production, the status quo will prevail until the wealth of the educated exceeds half the total wealth, after which pro-market reforms will be enacted. (ii) There is an α^* such that the conditions in (i) are satisfied iff $\alpha>\alpha^*$. (iii) An increase in γ leads to an increase in α^*.

Proof: Appendix.

The first condition in Lemma 6 (i) is simply that the condition for lemma 5 does not hold. The second condition is that the net income of the educated exceeds the sum of the net incomes of the uneducated and the oligopolist (when γ is high, this reduces to $\alpha>0.5$). Lemma 6 (ii) indicates that the higher the productivity of managers under the status quo, α, the more likely this condition is to be satisfied. The income share of the educated under the status quo is then high enough that they will eventually obtain a majority share of the wealth and voting power, and force through pro-market reforms. The intuition behind Lemma 6 (iii) is that the lower the productivity of the educated, γ, in providing services, the greater their share of the income for any level of productivity in goods production. Thus goods productivity and services productivity have opposing effects on the aggregate income share of the educated – low productivity γ in essential services leads to fewer educated going into manufacturing, where higher productivity α and small numbers will keep their wage high, allowing the educated to charge a higher price for services and extract a higher share of overall net income.

Lemma 7: If $\alpha+\beta>\frac{1}{2}$ and $(\bar{e}-1)\alpha \leq (1-\alpha)m^{S}-\frac{(\bar{u}+1-\bar{e})\alpha}{\gamma}$ and if $\alpha\left(\frac{\gamma(\bar{e}-1)-(\bar{e}+\bar{u}-1)}{\gamma(\bar{e}+1)-(\bar{e}+\bar{u}+1)}\right)+\beta>1-\alpha-\beta$, then the eventual outcome will be as derived in section 3.3, else the status quo will prevail.

Proof : See appendix.

The first two conditions in Lemma 7 (i) are simply that the conditions of Lemma 5 and 6 do not hold. The third condition is that the income shares of the educated and the uneducated is higher than that of the oligopolist , so their combined voting power will eventually swamp that of the oligopolist. Because no constituency has the majority voting power at that point, however, we will be back to the situation described in the model of imperfect democracy, where the votes of two out of the three constituencies are needed for any reform option to win the pairwise contest against another reform option. The outcome at that point will follow the solution derived in section 3.3. If the third condition does not hold, the oligopolist will retain majority power under the status quo and no reform will take place. When γ is high, Lemma 7 simplifies to only two conditions : If $\alpha+\beta>0.5$ and $\alpha \leq 0.5$, the outcome follows that derived in section 3.3.

3.4.3. Discussion: Plutocracy vs Imperfect Democracy

Reforms that reduce the power of the powerful are particularly difficult, because the powerful are unlikely to be a party to their own loss of power. However, if the currently powerful see a continuation of their power after reforms (Lemma 5), they may go along with some reforms. Indeed, to the extent that the rents of the educated are particularly high under the status quo because of their productivity in goods manufacturing and their inefficiency in essential services, the oligopolist may have an added incentive for education reforms – it reduces the rents of the currently educated stemming from their privileged ability to provide services, preventing their eventually acquiring power and opting for pro-market reforms. Note also that the all-powerful oligopolist in a plutocracy has the incentive to undertake education reform even though he would team with the educated in successfully opposing it if he were in a (imperfect) democracy. Democratizing, in the sense of spreading political power, does not always help reform.

Similarly, we see that in region A in an imperfect democracy, the equilibrium outcome is the status quo. However, if the educated capture a great enough share of the income (Lemma 6), they will gain power over time in a plutocracy and force through pro-market reforms. The point again is that concentration of political power in a particular constituency is not necessarily bad for reforms – it can break the gridlock that could ensue if power were spread across constituencies with different interests.

Taking this further, if indeed political institutions could be created by those in power, it might make sense for the oligopolist to voluntarily choose to democratize to induce gridlock; If the oligopolist is likely to lose political power because the educated capture a large enough share, and the other parameters of the problem put us in region A, then he can convert the political system to an imperfect democracy while he still has majority wealth and thus political power. By doing so, he gives up some of the political power that anyway was ebbing towards the educated, but he empowers the uneducated who will join him in opposing pro-market reforms. By strategically democratizing (or as we saw earlier, educating), the oligopolist can prevent further reforms.

IV. Extensions and Implications

Having presented the basic model and its intuition, let me first describe how it could account for the historical evidence, describe extensions and then discuss implications.

4.1. The Persistence of Underdevelopment

In this paper, we have seen that sub-optimal policies can persist so long as the status quo is highly unequal, even if the elite have no special coercive power, either formal or informal. Those policies maintain the inequality – the differential access to resources and opportunities – that in turn provide the political consensus for the policies. This offers a view of underdevelopment that neither relies on coercive power or institutions for persistence, which is a bonus for it allows us to explain how political liberalizations may have had little effect on economic outcomes if they left untouched the underlying inequality of opportunity and endowments.

In this view, the primary legacy of the early European colonialists were the differential degrees of initial inequality in endowments and opportunities in their colonies. In some settlements, they came upon existing, heavily populated, hierarchical societies following feudal modes of production, and simply displaced the rulers. In others that were amenable to plantation modes of agriculture, or mining, they enslaved the local population, or imported slaves (see Engerman and Sokoloff (2005)). In yet others where land was fertile and plentiful, the disease environment not inhospitable, and the local population scarce, the colonists worked the land themselves in small holdings. Initial inequality led to policies or economic institutions like schooling (see Engerman, Mariscal, and Sokoloff (2002)) that reproduced the inequality, and eventually constrained growth.

4.2. Compensating Transfers.

Thus far, we have ignored the possibility of compensating transfers that could be used to buy support for value-enhancing reforms. For instance, the educated might attempt to get support for pro-competition reforms in area A by indemnifying the uneducated for the loss they suffer as a result of the increased competition. The difficulty in achieving such transfers in our model starts with the fact that the uneducated are likely to be disorganized, and simply "vote" their pocketbooks. Of course, the educated could simply state in public their intent to compensate the uneducated if their preferred reform is voted through (though even this requires the educated to organize).[9] In practice, though, such indemnifying transfers are hard to commit to.

Without formal modeling for reasons of space, consider ways in which any agreement could break down. The transfers, amounting to the present value of all the losses the uneducated suffer over time, will need to be large. If they are made immediately and in a fungible form, then the uneducated can use these resources to obtain more political power, and use the power to push for comprehensive reforms. In other words, a transfer of fungible resources, in practice, also amounts to a transfer of political power. Since the educated prefer the status quo to comprehensive reforms in region A, the compensating transfer to buy support for pro-market reforms is unlikely to take place if it further tilts the balance of power (or if it overly escalates the level of dissipative political activity). More generally, Rajan and Zingales (2000) point out that agreements are hardest to seal through compensating transfers when the recipient is very poorly endowed, as is the case with the uneducated.

An alternative would be for the educated to not offer a lump sum transfer, but instead offer a steady compensatory payment over time, contingent on the uneducated not borrowing against this compensatory payment to gain political power (or perhaps offer compensation in a non-fungible, hard-to-borrow-against form). Here, however, the reverse problem might emerge. What is to stop the educated from reneging on their commitment to pay (see Besley and Coates (1997)), once the agreed

[9] Disorganization and lack of commitment may also explain why my model is more plausible than one where the oligopolists bribe the uneducated with higher-than-competitive wages to support the status quo. Each oligopolist would like to free-ride by paying his uneducated workers the competitive wage and thus increasing profits (as compared to paying them more than their marginal product), while enjoying the political benefits of contented workers generated by the overpayment by others. Unless the oligopolists are well organized to detect and punish such free-riding, the "bribe" equilibrium will tend to break down. It may be that such organization, commitment, and monitoring is possible in developed countries – witness country wide wage bargains – but it seems less plausible in underdeveloped countries, where informal labor arrangements would soon swamp formal arrangements.

upon reform catches on (also see Dixit and Londregan (1998) and Acemoglu (2003) for other variants of how the inability to commit can lead to difficulty in concluding Coasian bargains)?

Even the process of negotiating over reforms may be fraught with difficulty in a democracy. The oligopolist and the educated do not have formal legal rights to the rents they obtain by limiting competition or access to education. The moment they admit to these rents in a negotiation, they lose the moral high ground in the court of public opinion, which again could affect their political power and their ability to obtain compensation for the rents. In short, it might be hard for them to negotiate indemnification for the loss of rights they were not "supposed" to enjoy to begin with. A detailed investigation of the consequences of introducing transfers is, however, left to further research.

4.3. Extensions

There are many ways this simple model can be extended. I have space only to sketch some.

4.3.1. Alternative Models.

The phenomenon of competitive rent preservation is not specific to education reform and competition. It occurs every time economic reforms not only have major efficiency and redistributive effects, but also can change the political preferences of an entire constituency.

Consider, for instance, a variant of the model, couched in terms of access to finance and land reform instead of education and market reforms. Suppose the economy consists of a landlord (oligopolist), the liquidity unconstrained (educated), and the liquidity constrained (uneducated). Even if reforms placing ceilings on private land holdings (or selling government land) were enacted, suppose that it takes financial liquidity to buy and run a small farm – for example, to buy fertilizer inputs and seeds – as also to obtain the health and education to be an overseer in a large farm. Prior to land reform, both the liquidity constrained and the liquidity unconstrained work for the landlord, the former as laborer, the latter as overseer. The landless laborer also rents some marginal land from the landlord to grow food for personal consumption. After land reforms, overseers will leave to run their own farms, where not only are they more productive, they also obtain the income from ownership. The greater income possibilities associated with better farmed land will, of course, boost land rents significantly. The landlord loses his monopoly rights and opposes land reform. So, also, might the liquidity constrained, whose wages may not go up in proportion to the higher rents they have to pay on the land on which they grow food for personal consumption. So the landlord and the liquidity constrained may both be against land reform.

Financial sector reforms alone will allow the liquidity constrained to upgrade their human capital and compete with the liquidity unconstrained for overseer jobs. But it will also make them more favorable to land reforms, which the landlord opposes. Hence, the very same structure of preferences arises in this case, with a similar impasse in reforms.

4.3.2. Alternative Constituencies.

I have assumed a three constituency economy. Indeed Luebbert (1991) argues that European economies that remained liberal democracies through the upheaval of the First World War and the Great Depression were ones that reached an early accommodation between labor and the middle class liberal parties (against the conservative elite). By reaching out to the needs of labor early on (including through expanding education and representation), the middle class liberal parties could focus on pro-market policies even as events conspired to raise class consciousness (the war) and class conflict (the Depression). By contrast, where such early accommodation was not reached, the eventual compromise arrived at during crisis was less favorable to the market economy. Indeed, the compromise then had to take place with other constituencies that are not modeled in this paper. Where labor and the small and medium farmers (what Luebbert calls the middle peasantry) reached a compromise, pro-labor social democracies emerged, while where the urban middle class and the middle peasantry reached an accommodation, the outcome was anti-labor fascism.

The broader point is that economic direction is offered by an accommodation between broad constituencies, which may differ from country to country. Modeling the rich variety of such constituencies in a developing country, and examining how they affect reform (see Bates and Krueger (1993) and the papers in it, for an early attempt), is clearly an important direction for future research.

4.3.3. Trade, growth spurts, and real exchange rate appreciation.

A natural analogy to the goods and services in my model are traded and non-traded goods. Prasad, Rajan, and Subramanian (2007) document that there is a strong negative correlation between the extent of exchange rate overvaluation of a non-industrial country (signifying a high relative price of non-traded goods) and its growth, both in the cross-section and over time for countries. Moreover, they show that non-industrial countries with sustained spurts in income growth typically tend to increase their savings faster than they increase investment. In other words, they do not consume the increase in income, and typically manage to reduce their reliance on external capital (i.e., they run lower current account deficits) even while growing fast. Finally, and what is particularly interesting, is that the non-industrial countries that have sustained growth spells tend to not allow their real exchange rate to become overvalued during the growth spell.

What accounts for these phenomena? Perhaps the explanation has to do with the limited capacity non-industrial countries have for producing non-traded goods– especially those that use slow-to-change factors such as education (think medical services in my model) intensively. The idea is that if a substantial portion of the increase in income from an initial spurt of growth is spent rather than saved, a significant amount will fall on non-traded goods. Given limited capacity, the price of those goods will rise. Of course, factors will move to the non-traded sector in response to the price rise, but if a key factor is education or human capital, it may be hard to increase its economy-wide availability in even the medium run, especially if the educated are opposed. The real exchange rate will rise.

This then could create two sources of impediments to further growth. The first is that with the rise in real exchange rates, traded goods will become less competitive. The second, as in the model in this paper, is that the real wages of some in the economy could be adversely impacted as the rise in non-traded goods prices offsets an increase in job opportunities and income from the initial growth. This second, political economy, channel will create increased demands for compensation, increased opposition to further liberalization, and will also contribute to choking off growth.

The implication is that export led growth, coupled with low consumption and high domestic savings – as exemplified by the East Asian growth miracles -- tends to have the collateral effect of allowing a longer period for domestic capacity in the non-traded goods sector to be built up. By contrast, countries where domestic consumption picks up overly rapidly in response to growth tend to come up against capacity constraints relatively quickly. One possibility suggested by this paper is to examine whether the inability of aid receiving countries to expand manufacturing exports, documented in Rajan and Subramanian (2006), is because they have limited capacity in education-intensive services (by which we mean a very small number of people educated enough to provide those services, and low productivity in service provision) and a low propensity to save (as proxied for by a high dependence on foreign aid to make domestic investment).[10] Increases in expenditure then tax the limited capacity, result in exchange rate overvaluation, which then hurts growth. Modeling and testing such explanations is a fruitful area of future research.

4.3.4. Alternative Identities.

[10] Of course, the propensity to save/consume is endogenous. Clifford (1994) documents how South Korean leaders like Pak Chung Hee exhorted the Korean people to restrain consumption during the period of rapid growth between the 1960s to the 1980s. For example, till the late 1980s, neon lights were frowned upon in Seoul as evidence of excessive consumption.

I have associated an agent's identity entirely with his endowments. In reality, however, there are many other sources of identity such as ethnic group, religion, gender, etc. Clearly, introducing solidarity as well as discrimination based on these identities will introduce a whole new dimension to the model.

Indeed, it is not a priori clear how alternative identities would affect incentives for reform. In particular, if the opportunities created by reforms could be limited through discrimination based on identity, those enjoying rents (presumably, those whose identities secure them privilege) would not feel so threatened by the reforms (expanding competition or endowments). At the same time, though, the underprivileged will see considerably fewer benefits of the reform, and have less of an incentive to press for it, especially if the reform involves personal costs (see the empirical work later).

Matters become worse if non-economic sources of resentment accompany an ethno-linguistic divide, and if the divide reinforces an economic divide (as in the caste system). In this case, the crabs in the bucket become even more determined to pull each other down, ensuring persistence. The importance of the ethno-linguistic fractionalization in explaining underdevelopment (see Mauro (1995) or Easterly and Levine (2003)) could be seen in this light. Again, careful investigation of these issues will have payoffs.

4.3.5. Expansion, agglomeration economies, and other spillovers.

I have assumed that the educated are invariably made worse off when the uneducated receive education. Yet, it is possible to envisage situations where rapid growth expands opportunities beyond what can be serviced by the existing population of the educated. Indeed, Engerman, Mariscal, and Sokoloff (2002) find that the expansion of public schooling in Argentina and Chile took place during booms, and when these countries attracted large numbers of (more highly educated) immigrants, suggesting large opportunities. In the same vein, an extensive literature (see Collier and Hoeffler (2002)) suggests a rapid increase in conflict if economic opportunities shrink.

Agglomeration economies could contribute to the effects of expansion in overcoming concerns about rent dissipation – for example, when a country has more educated, it attracts more foreign direct investment (FDI) in skill-intensive industries, and hence disproportionately more opportunities for the educated. Similarly, the Hekscher-Olin theorem suggests that opening to trade favors the domestic factor that is in relatively abundant supply, and should thus facilitate reforms that expand that factor.

I have assumed that the individual demand for services is inelastic, and fixed in quantity. It is, however, plausible that as economies grow through liberalization, the demand for these services will expand, putting further upward pressure on their prices over and above that placed by limited supply, further reducing the real wages of all those who consume, but do not produce, services. Of course, I have also assumed that service productivity is not affected by reforms. If indeed service productivity increases, it would moderate the price rise. A worthwhile extension would be to endogenize differential improvements in opportunities as well as changes in productivity.

4.4. Related literature

The model highlights the difficulty of enacting reforms that expand educational or financial endowments, even when the economy is not dominated by 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 values 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-market reforms, and thus makes them predisposed to further reform. It is the fear of comprehensive reforms that makes the oligopolist oppose education reforms.[11]

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. The educated are consequently more likely to support democracy even when it offers weak personal rewards. Glaeser et al.'s focus is not on the factors driving education. By contrast, my 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.

My paper is also not the first to argue that the difficulty of commitment to future actions may lead to paralysis in policy. Besley and Coates (1997) identify three reasons why optimal policies may not be undertaken by the currently powerful. First, compensation may not be paid by the future powerful. Second, the action today may change the identity of those who get elected in the future. Third, actions today may change the preferences of future policymakers. All three factors are clearly

[11] Perhaps the elite oppose reforms because they have to pay the costs (say, for education). This certainly could be part of the story but does not explain why expenditures on public education have stayed limited even as societies become more democratic, especially given high returns to education.

at work in this paper, though the key is that taken in combination, they can work against any reform obtaining support, even when we allow a vote to those who are not the elite today.

Fernandes and Rodrik (1991) 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 uncertain, and spread unevenly across the population, one can create examples where the electorate will vote against them because of the expected incidence of benefits, even though more people benefit (ex post) from the reform than lose. Of course, by symmetry, it is also possible to create examples of excessive reform.

Galor et al. (2006) also model spillover effects. In their model, the differential marginal productivity of human capital between the agricultural and the non agricultural sector creates the friction. Since education will increase the cost of labor more than its productivity in agriculture, the landed aristocracy will oppose universal education.[12] More generally, the powerful have the incentive to choose inefficient technologies in order to maintain a larger share of a smaller pie (see, for example, Hoff (1996)). The landlord in all these models resembles the oligopolist in mine, though the Galor et al. model is one that focuses on political competition between industrial and rural elites. My model, by contrast, shows how the adverse spillover effects of reforms can induce the poor uneducated to support the oligopolist.

Finally, there is an extensive literature suggesting that inequality can lead to distributional conflicts that hamper growth (see, for example, Alesina and Rodrik (1994)). Typically, the literature focuses on the incidence of costs of public goods and of taxation. My paper abstracts from those effects, focusing instead on the uneven incidence of the benefits of reforms as well as the loss of rents. One broad implication – that inequality in endowments hampers growth – is similar, though I add the qualification that the level of endowments also matters, with economies with particularly low levels of endowment having low capacity and thus little ability to absorb the unequal effects of reforms. Also, the literature would suggest a narrowing of inequality over time as the rich are taxed, while my paper would suggest the persistence of inequality.

4.5. Empirical support: World Value Survey and Attitude Towards Competition.

[12] Similarly, Binswanger and Deininger (1997), an excellent survey of the difficulty of agricultural reform, discuss the role of the elite large farmers in limiting opportunities for small family farms in order to reduce the reservation utilities of their operators.

One of the most important implications of my model is that, ceteris paribus, attitudes toward competition are affected by characteristics that represent the ability to take advantage of opportunities – principally education. In other words, education operates by changing economic opportunities. This distinguishes the model from others such as Bourguignon and Verdier (2000) or Glaeser et al. (2005) where education enhances democratic participation. Of course, the effects are not mutually exclusive.

To test this distinguishing feature, I use data collected by the World Value Survey (WVS), a cross-country project coordinated by the University of Michigan examining the basic values and beliefs of individuals in a large cross-section of countries over a number of years. I focus on the 2000 survey in one country, India. The advantage of examining one country is that I keep the overall political environment constant across respondents, thus enabling a focus on attitudes rather than institutions. To identify people's attitudes toward competition the survey asks:

"How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between."

The statement on the left is *"Competition is harmful. It brings out the worst in people"*, the one on the right is *"Competition is good. It stimulates people to work hard and develop new ideas"*. As the summary statistics in Table 3 indicate, the mean over 2002 respondents is 7.8 with a standard deviation of 2.9.

The survey asks each respondent a number of questions about their characteristics (age, gender, education, profession, etc.), location (district, size of town/village), and status (caste). These then are the source of my explanatory variables. I include only those responses in my analysis where the respondent is described as being either "very interested" or "somewhat interested", leaving out those where the respondent is uninterested on grounds that the responses may be unreliable. Including these do not materially change the findings.

Start first with characteristics. I code the respondent as young if they are below age 34, middle aged if they are between 35 and 54, and old if above. There are nine categories for education, ranging from "no formal education" to "university with degree". I ascribe a number from 1 to 9 for these increasing levels of education. A number of responders never had a job (typically if they are students or housewives). In these cases, I code the profession of the respondent as the profession of the head of the household. I classify the professions broadly as managerial (including supervisory and professional staff), industrial laborers (semi-skilled or unskilled industrial and office workers), agricultural laborers, and farmers.

4.5.1. Education and attitude towards competition

One implication in the paper is that managers are likely to be more favorable towards competition than are less skilled industrial workers. In the first specification in Table 4 (column (1)), I include only managers and industrial laborers, along with indicators for age and gender. In each of the regressions described below, I include indicators for the district in which the respondent lives so as to absorb local differences. Robust standard errors are clustered at the district level.

Column 1 suggests industrial laborers are statistically significantly less favorable towards competition than are managers with the difference in attitude amounting to about 25 percent of the standard deviation of the dependent variable. In column (2) I include other categories of respondents (primarily farmers and agricultural laborers), as well as a separate indicator for managers, and find that managers are more favorable than the average (though not statistically so) and laborers are less favorable than the average, with the difference in attitude between the two still being statistically significant at the 5 percent level. In column (3), I include my measure of educational attainment. The coefficient on education is strongly statistically significant -- an increase in education from the bottom category to the highest category increases the respondent's receptiveness towards competition by about as much as the move from laborer to manager. Moreover, the inclusion of education substantially wipes out the coefficient of the manager indicator, and renders the difference between the coefficients of the manager indicator and the laborer indicator statistically insignificant at conventional levels. In short, education seems to be a powerful driver of the differences in attitudes, and seems to be responsible for some of the difference between managers and laborers.

Finally, another measure of one's ability to take advantage of opportunities is one's income (as a proxy for wealth). An immediate question is whether education simply proxies for wealth – after all, the wealthy have a greater ability to get educated. In column (4) I include indicators for the quartile in which the respondent's household income lies, along with my measure of education (the omitted category is those that do not report a household income). While respondents in richer quartiles are significantly more likely to favor competition (coefficient of 0.845 in the richest quartile, 0.258 in the poorest quartile), education still has a statistically significant and economically important coefficient.

4.5.2. How opportunities modulate attitude.

It may well be that attitudes towards competition become more favorable with education, not because the respondent sees greater economic opportunities in competition as education improves, but because education makes an individual more aware of the benefits of competition. Of course, economists with a more socialist bent could claim that education makes an individual more aware of the evils of competition – and this is more plausibly the learning imparted in India, which still defines itself as socialist in the constitution. At any rate, it is useful to examine whether proxies for the extent of opportunity education brings enhance the effects of education.

Marshall (1890) argued that because distance limits communication, cities are particularly conducive to spread of ideas. This idea, further refined by Jacobs (1968) and Glaeser (1997), among others, suggests that education is likely to be more important in taking advantage of the opportunities opened up by competition in large towns than in small villages. If this is so, education should be significantly more important in affecting attitudes towards competition for respondents in large towns, and significantly less important for respondents in small towns and villages.

We know the size of the town the respondent lives in. In column (1) of Table 5, we include in the standard specification (that is, Table 4 column (3)) an indicator if the respondent is an inhabitant of a large town (more than 50,000 inhabitants), and also an interaction between that indicator and education. The estimated coefficient of the interaction is positive and statistically significant. The coefficient estimates in column (1) suggest education engenders a more favorable attitude towards competition at a rate approximately 4 times faster in a large town than the average.[13]

In column (2) we include in the standard specification an indicator if the respondent is an inhabitant of a small town (below 5000 inhabitants), and also an interaction between that indicator and education. The coefficient on the interaction is strongly negative and approximately equal in magnitude to the coefficient on education. Thus education does not seem to alter views towards competition in a small town, consistent with it offering fewer economic opportunities.

Of course, location may alter the nature of education, so it would help to have another measure of economic opportunity. In India, lower castes (including backward castes, scheduled castes, and scheduled tribes) have typically had more limited opportunities, especially in jobs requiring more education. Education should have far less effect on attitudes if the respondent belongs to a low caste. So in column (3) I include an indicator if the respondent is low caste, and an interaction between that indicator and education. As predicted, the coefficient on the interaction is negative and statistically significant – and of a magnitude large enough to fully offset the otherwise positive effects of education on attitudes towards competition. Interestingly, the coefficient on the indicator is strongly positive. A respondent belonging to a lower caste is typically more favorable

[13] The coefficient of the indicator if the respondent inhabits a large town (or small town) is not necessarily meaningful since we also have district indicators. Specifically, if large towns are in largely urban districts, the coefficient estimate on the indicator if a resident of a large town will be the marginal effect over and above that of being resident in an urbanized district.

towards competition, but more education does not make them more favorable – consistent with a relative narrowing of opportunities because of greater caste based discrimination in the more education-intensive jobs that do not "naturally" go to the lower castes. In column (4), I include all the indicators and interactions at the same time, while in column (5) I drop the indicators for laborer and manager. The coefficient estimates are broadly similar, suggesting some stability to the regression specifications.

4.5.3. Other Large Sample Evidence.

Clearly this evidence is just indicative that the basic outline of the model is plausible. Turning to prior studies, an extremely interesting one by Banerjee and Iyer (2005) is persuasive that inequality of endowments matters, because again they examine its effects within a common political system – that of colonial and independent India. They find that districts in which proprietary rights were given to large landlords by the British had much greater inequality in land and incomes than districts where rights were given directly to the cultivator, and this inequality persisted till Indian independence. While inequality diminished after independence as a result of land reforms, it lingered on since the reforms were incomplete and, sometimes, ineffective. Banerjee and Iyer find that landlord dominated areas could take much less advantage of the post-independence agricultural reforms, spending far less on development, even after correcting for differences in income. As a result, agricultural productivity was lower in landlord areas, despite some evidence that the non-landlord areas were poorer at the outset in colonial times. Particularly relevant to my model is the finding that in the period after independence, landlord areas had 21 % fewer villages equipped with primary schools, while the gap in middle school and high school availability was 61% and 63% respectively relative to the more equally endowed non-landlord areas. The subsequent persistence of inequality, the difficulty of taking advantage of reforms, including those funded by the central government, as well as the under-emphasis on education in unequal areas are all consistent with my model.

Pal and Ghosh (2006) look at modern Indian data and find that in areas where there is a greater share of land held by the top 5 percent of the population, spending on education is lower. In a similar vein, Erikson and Ramcharan (2005) examine the effects of inequality in land holdings on public expenditure, such as on education, in the United States. Unlike Banerjee and Iyer (2005), where the pattern of land holdings is likely to be exogenously determined because the colonial system of land tenure was exogenously imposed, the system of land tenure in the states Erikson and Ramcharan examine is likely to be endogenous. Using the volatility of weather as an instrument (more volatile weather patterns means larger farm size in equilibrium), they find indeed that higher inequality in land holdings around the beginning of the twentieth century meant lower public expenditure on public goods such as education.

Finally, the model would suggest that countries that experience positive growth shocks when they also have low initial levels of inequality are more likely to undertake the necessary policies to sustain growth opportunities. Indeed, Berg, Ostry, and Zettelmeyer (2006) find that growth episodes have a significantly longer duration in countries that start with lower levels of income inequality (a rough proxy for inequality in opportunities and endowments).

V. Discussion and Implications for Development

When attempting to explain the slow economic growth in a country like Mexico, which has been through independence, revolution, one party rule, and democratization, far too many people continue to blame political institutions. When faced with a paralyzed economic and social reform process, those with presidential systems seek parliamentary systems and vice versa, those with proportional representation seek to change to a majoritarian system, and vice versa, some seek to decentralize, while others to centralize decision making. While economists have found some effect of these changes (see Persson and Tabellini (2002, 2005) for an excellent overview), they are subtle and far more limited than one might expect. Indeed, it is hard to rule out the possibility that any observed economic effects reflect the underlying change in circumstances that prompt the change in political structures, rather than the effect of changes in political structures themselves.

The point my paper makes is that economic paralysis may well reflect the broad aggregation of preferences of the electorate. Even though everyone can see a better place for the economy to be in, each constituency's "better place" is not the same as every other constituency's "better place" because they start with different endowments and opportunities, and therefore want to protect different rents. The status quo may be the only common ground since it happens to be the one everyone is standing on.

If indeed poor countries are a selected sample that has landed in paralytic status quo equilibria, it may well take an unorthodox jolt to shake them out of the paralysis. Standard nostrums may well not work, especially because there are likely to be a rich variety of sources of dysfunctionalities, far surpassing what can be captured in a simple model.[14] Nevertheless, my model suggests a significant broadening of access to endowments, as well as an increase in capacity, may well be a necessary ingredient for sustained growth, and for popular acceptance of opportunity-enhancing reforms.

5.1. Where has all the education gone?

An immediate question then is the one Pritchett (2001) asks: Where has all the education gone? He argues, using cross-sectional data, that there is no association between increases in human capital attributable to the rising educational attainment of the labor force and the rate of growth of output per worker.

One explanation he offers is rent seeking – an increase in the number of educated simply increases the number of government jobs that need to be created to accommodate the politically dangerous educated. A related explanation is demand. Perhaps education is beneficial only when there is demand for the educated – to the extent that opportunities are limited and technology stagnant, these may well not exist, and the educated may turn to rent seeking. Neither of these possibilities are present in the model but could easily be accommodated.

A third explanation is that educational quality may in fact be too low to create additional human capital – indeed, the educated in our model may keep the uneducated quiet through a separate but grossly unequal system. It may also be that some minimum threshold of education is needed (both in number of educated, and education per person) so as to attract investment or create necessary service capacity. Increasing enrollments in primary or even secondary education may not increase the number of doctors, especially if another factor that he does not mention is also at work: outward migration takes the best and the brightest away. All this suggests a simple minded focus on expanding low quality education may have intrinsic benefits, but may not immediately help growth.

At the same time, while it might be hard to find evidence of the benefits of changes in education on growth in cross-country regressions, one should not jump to dismiss the role of education. Indeed, Glaeser et al. (2004) find a strong relationship between a country's initial level of human capital and its subsequent level of economic development as well as growth. Perhaps the problems in finding a robust correlation between growth in human capital and economic growth have to do with the persistence of human capital (so that short term changes in the former largely reflect

[14] Of course, this does not immediately imply we know which heterodox policies will work. Indeed, sustained growth may require careful and logical experimentation, taking into account the local political economy, without being shackled by orthodox nostrums (see, for instance, Easterly (2007) and Rajan (2005)).

noise) and threshold effects (so that increases below the threshold have little effect). Perhaps they also have to do with whether the education is appropriate (i.e., whether there is demand for the kind of education provided so that more education of the wrong kind does not simply turn into rent seeking). Aghion et al. (2005) show that in US states that are close to the technological frontier, tertiary education is more growth enhancing, while in states that are further away, secondary education is more growth enhancing. Moreover, tertiary education in states that are far from the technology frontier may lead to costs with few benefits as the highly educated workers migrate to frontier states.

The inability to create and retain the "right" educated human capital despite substantial recent investments may thus be an important factor keeping poor countries poor. In their interesting comparison of developing countries that had sustained growth accelerations with currently poor countries in Sub-Saharan Africa, Johnson, Ostry, and Subramanian (2005) find that enrollment rates in the former (in both primary and secondary education) at the point of take-off were about the same as enrollment rates in the latter today. Infrastructure, as measured by roads per surface area or telephone lines per million, is also similar. However, an enormous source of difference is the number of physicians per million people (at 216 in Sub Saharan Africa today versus 522.5 in the sustained growth countries at the point of take-off). The significant differences in life expectancy suggest that lack of opportunities for physicians is not the problem. For whatever reason, investment in education has not been creating the right human capital capacity and that needs to be remedied. This is clearly more complex a public policy problem than simply increasing enrollments (which itself is complex enough).

Similarly, as I have argued and Zimbabwe has recently shown, land reform is not simply a matter of redistributing land. Without appropriate education of the formerly landless, the provision of extension services, and the provision of credit, land reform could turn out to be a miserable failure. Policies to expand endowments require actions on a variety of fronts and are far from simple.

5.2. Sequencing

How does one jump start the economy? It may be tempting to do what is possible. For instance, some have argued that the strengthening of property rights and the expansion of competition and associated opportunities will help the very poor (see, for example, De Soto (1989,2002)). Such reforms could certainly create growth for a while but the lack of endowments, especially of education, may leave the poor unprepared for the market economy, and possibly worse off. Reforms could grind to a halt. To the extent that a large constituency -- the uneducated or, more generally, the poorly endowed -- benefit little from these pro-market reforms, it creates general skepticism about reform. Furthermore, it converts a constituency -- the educated or more generally the well-endowed -- that is hungry for reforms, into one that is unenthusiastic about further reforms. Perhaps then, in some situations of extreme inequality, it may be wiser to focus first on broadening access to endowments. If market oriented reforms follow soon after, they may fall on more fertile ground.

Sequencing therefore matters. Broadening the ability to take advantage of opportunity first, and then broadening opportunity, will ensure widespread support for comprehensive and thorough reforms, while the reverse sequence, though politically more feasible, will likely leave reforms stalled and incomplete. Unfortunately, as discussed above, reforms expanding access to endowments are the hardest to effect, which is perhaps one reason why underdevelopment is so hard to cure. There are, however, situations when such reforms do take place.

5.3. Motivated Government

Let us leave aside the unrealistic possibility of a benevolent dictator which would solve many problems in political economy. What if a government sought reform but was in a situation where the polity was paralyzed by rent preservation? One common view is that the task of the government is persuasion, and that all it needs is to lay out its long term vision clearly for everyone to buy in to the reform process. Yet, if the conditions in the model hold, the polity may not want comprehensive reforms and too clear an articulation of the road may lead to a mobilization of the opposition.

Instead, the government may have to seize every opportunity it can, leaving unclear what its ultimate destination is. As we have seen, endowment enhancing reforms (such as broadening access to education or land) can give political momentum to further reforms. If those initial reforms can be undertaken without much discussion of future steps – reform by stealth, so to speak – a government might have more success.

The right circumstances could also be a spur to reforms. Often, economic (especially fiscal) crises can break gridlock (see Binswanger and Deininger (1997)). In normal times, a constituency may be reluctant to place its rents on the negotiating table, for fear that only its rents will be reformed away. A grave economic crisis may make it credible that only one constituency's rents will be insufficient to remedy the situation, and could create a more conducive environment for negotiation, where everyone has to give a little.

At the opposite extreme, rapid growth, especially through trade, could also create a conducive environment for reform by creating enough opportunities to go around.[15] In particular, the educated

[15] Policies such as pro-market reforms should lead to improved institutional outcomes such as rule of law. Johnson, Ostry, and Subramanian (2005) document an improvement in institutional outcomes as a result of growth spurts in poor countries with high initial education and a competitive external sector.

may be more willing to tolerate education for the uneducated when growth is rapid and more than enough new jobs are being created. Agglomeration economies would make them even more supportive. Similarly, an oligopolist, seeing the larger world market he could have access to if he became globally competitive through reform, may welcome an educated workforce, even if it eventually means more domestic competition. For example, Galor and Moav (2006) document that English industrialists supported universal education at the end of the 19th century as a way to increase their ability to compete with French and German companies.

5.4. Non economic reasons to promote education mass-education

Forces outside economics have played an important part in helping some countries overcome the natural incentives of interest groups. Perhaps the strongest force has been religion. For example, 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 (Weiner, 1991).

Nationalism seems to have been a second factor. After the Revolution the French government 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. It redoubled its efforts as a way to strengthen the army after being defeated by Germany in 1870. 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 (Weiner (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 (Weiner (1991), Yoon (2007)).

Successful land reforms also appear to have been undertaken under circumstances of political change. The rise of the gentry in Britain, the force behind the growing power of Parliament, accompanied the taming of the power of great lords and the Church by Henry VII and Henry VIII and the sale of their lands (see Tawney (1949), Rajan and Zingales (2003)). Similarly, the desire of the Allied occupiers to reduce the power of the Japanese landlords who backed the prior militaristic regime (see, for example, Nelson (1993)), or of Koreans to cut landlords who had been too cozy with Japanese occupiers down to size (see Jeon and Kim (2000)), led to successful land reforms in these countries. In Taiwan, a desire of the mainlander dominated Kuomintang to obtain greater legitimacy with the local population (and to match the popular actions of the Communists on the mainland) led them to espouse land reforms, which were widely welcomed because of the unpopularity of the landed elite (Amsden (1988)).[16]

Marxism (which some may regard as a religion) has also been a strong force because of its focus on expanding access. Weiner (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 (also see (Easterlin (1981)). The Chinese were not uninfluenced by Japan, whose success they saw as due to its emphasis on education. The broadening of access to education under a Communist state, confident of its ability to retain power, may then paradoxically create the conditions for rapid opportunity-enhancing reforms – the creation of a vibrant market economy -- when that stranglehold over power breaks. Conversely, an unequal expansion of opportunities in a market economy, may create unequal access to endowments (as the newly wealthy send their children to elite schools that enable them to take advantage of skilled biased technical change), that eventually increases political opposition to further reforms. Access and opportunities cannot move too far from each other without creating political tension.

Conclusion

Any uni-dimensional view of economic development and the impediments to it is likely to be incomplete. The details in each country obviously differ, and any attempt at generalization is likely to be considered overly sweeping. Nevertheless, there is value in putting forward specific theories, and in building the case for them, not so much to exclude other theories, but to give economists more options in describing the impediments to growth in a specific instance. Broadly speaking, I have argued that a key impediment to development is that underdeveloped economies are divided into constituencies that fear the loss of the rents they already have, while being extremely skeptical about the path, benefits, and incidence, of reforms. Inequality in endowments and opportunities play a large role in stagnation, as well as in sustaining the policies that reproduce the inequality. Remedying these

[16] By contrast, limited land reforms in much of India (Warriner (1969)) and the Phillipines (World Bank (1993)) suggest that absent extraordinary political forces, land reforms will be piecemeal and engineered for failure, even if the political rhetoric welcomes it.

conditions is not an easy task for policy makers, even if they could be certain of the necessary subsequent policies, which may explain why underdevelopment is so persistent.

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Appendix

Proof of Lemma 1: The oligopolist will place workers in managerial and $\frac{m^E}{l^E} = \frac{\alpha}{\beta}$. But by assumptions 1 (iii) and 2, $\frac{\alpha}{\beta} > \frac{1+\overline{e}}{\overline{u}} > \frac{m^S}{\overline{u}}$, where m^S, the number of educated who work as managers under the status quo, is by definition less than $1+\overline{e}$. Therefore, $\frac{m^E}{l^E} > \frac{m^S}{\overline{u}}$, and since all workers are used in both situations, it must be that $m^S < m^E$ and $\overline{u} > l^E$. 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, the educated are worse off while uneducated are better off, in part because of their higher income, and in part because the price of services, which depends on the income of managers, is lower. It is easy to check that total goods production increases because more workers can now be deployed in the higher marginal productivity activity of management. The oligopolist's net oligopoly rents are $\theta(m)^{\alpha}(l)^{\beta} - \alpha m\theta(m)^{\alpha-1}(l)^{\beta} - \beta l\theta(m)^{\alpha}(l)^{\beta-1} = (1-\alpha-\beta)\theta(m)^{\alpha}(l)^{\beta}$. 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 $(1-\alpha-\beta)\left[\alpha l - \beta m\right]\theta(m)^{\alpha-1}(l)^{\beta-1} > 0$. 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's rents are higher with education than in the status quo. However, his net income as a manager will be lower.

To show that his preference depends on parameters, start with the example in the text, where $\alpha = 0.5$, $\beta = 0.3$, γ =36, $\overline{u} = 100$. Let $\overline{e} = 6$ and θ =0.9. The oligopolist's rent is one tenth of total production and is 1.14 under the status quo and 3.14 under education reforms. Even though his net income as a manager falls from 0.87 to 0.17, it is more than made up by the increase in his oligopolist rents. However, if $\alpha = 0.58$, $\beta = 0.4$, the oligopolist's rent is one fiftieth of total production. It goes up from 0.25 to 0.88 on education reforms, but his rent as a manager falls more – from 1.78 to 0.40. Thus the oligopolist is worse off in this case after education reform.

Proof of Lemma 2:

After pro-market reforms, an educated worker gets $(1-\frac{1}{\gamma})(1-\beta)(l^P)^{\beta}$ where $l^P = \frac{\overline{u}}{m^S}$. Under the status quo, he gets $\left(1-\frac{1}{\gamma}\right)\theta\alpha\,(m^S)^{\alpha-1}(\overline{u})^{\beta}$. Comparing the two terms, he gets more on reform iff

$$\frac{\theta\alpha}{(m^S)^{1-(\alpha+\beta)}} < (1-\beta) \qquad (1.4)$$

We know $\theta < 1$. Also, $1-\beta > \alpha$ by assumption 1 (ii). Finally, $m^S > 1$ as we will show. So the LHS of (1.4) is indeed less than the RHS. To show $m^S > 1$: $m^S = 1+\bar{e} - \left(\frac{1+\bar{e}+\bar{u}}{\gamma}\right)$. Substituting $\gamma > \frac{\frac{\alpha}{\beta}\bar{u}+1+\bar{e}+\bar{u}}{1+\bar{e}}$ from assumption 3, we get $m^S > (1+\bar{e})\left(\frac{\frac{\frac{\alpha}{\beta}\bar{u}}{1+\bar{e}+\bar{u}}}{\frac{\frac{\alpha}{\beta}\bar{u}}{1+\bar{e}+\bar{u}}+1}\right)$. Using from assumption 2 the fact that $\bar{u} >> 1+\bar{e}$, this simplifies to $m^S > (1+\bar{e})\left(\frac{\alpha}{\alpha+\beta}\right)$. Because $\left(\frac{\alpha}{\alpha+\beta}\right) > \frac{1}{2}$ and $(1+\bar{e}) > 2$, $m^S > 1$.

That the uneducated and the oligopolist's preferences are parameter specific can easily be shown by example.

Proof of Corollary 1:

Comparing the oligopolist's net income under the status quo to his net income under pro-market reforms, the former is greater iff

$(1-\alpha-\beta)\theta\left(m^S\right)^{\alpha}(\bar{u})^{\beta} + \alpha\theta\left(m^S\right)^{\alpha-1}(\bar{u})^{\beta}\left(1-\frac{1}{\gamma}\right) > (1-\beta)\left(\frac{\bar{u}}{m^S}\right)^{\beta}\left(1-\frac{1}{\gamma}\right)$. Clearly the left hand side increases in the oligopolist's efficiency θ, hence (i). Taking out the common positive term $\left(\frac{\bar{u}}{m^S}\right)^{\beta}$, whether the inequality holds depends on the sign of

$(1-\alpha-\beta)\theta\left(m^S\right)^{\alpha+\beta} + \alpha\theta\left(m^S\right)^{\alpha+\beta-1}\left(1-\frac{1}{\gamma}\right) - (1-\beta)\left(1-\frac{1}{\gamma}\right)$. Differentiating w.r.t. m^S and simplifying, we see that the term increases in m^S iff $(\alpha+\beta) - \frac{\alpha}{m^S}\left(1-\frac{1}{\gamma}\right) > 0$. Because m^S >1 (see proof of lemma 2), this last inequality holds. Since m^S increases in $\bar{e}$ and decreases in $\bar{u}$, the remaining parts of the corollary follow.

Proof of Corollary 2:

Comparing net incomes, the uneducated are better off under the status quo than under pro-market reforms iff

$$\frac{\theta}{(m^S)^{1-(\alpha+\beta)}}\left(\beta - \frac{\alpha}{\gamma}l^P\right)(l^P)^{\beta-1} > \left(\beta - \frac{(1-\beta)l^P}{\gamma}\right)(l^P)^{\beta-1} \tag{1.5}$$

The left hand side of (1.5) clearly increases in θ, hence corollary 2 (i).

Cancelling positive common terms in (1.5), moving terms to one side, and differentiating w.r.t. γ, we get an expression that decreases with an increase in γ iff

$$-\left(\beta-\frac{\alpha}{\gamma}l^P\right)\theta\left(\frac{1-(\alpha+\beta)}{\left(m^S\right)^{2-(\alpha+\beta)}}\right)\frac{dm^S}{d\gamma}-\left[(1-\beta)-\frac{\alpha\theta}{\left(m^S\right)^{1-(\alpha+\beta)}}\right]\frac{l^P}{\gamma^2}+\left[(1-\beta)-\frac{\alpha\theta}{\left(m^S\right)^{1-(\alpha+\beta)}}\right]\frac{dl^P}{d\gamma}<0$$

Since $\frac{dm^S}{d\gamma}>0$, $\frac{dl^P}{d\gamma}<0$, assumption 3 ensures $\beta\geq\frac{\alpha}{\gamma}l^P$, and the term in square brackets is positive (see inequality (1.4) above and associated proof), the inequality holds. Moreover, we know that preferences switch within the range of feasible γ: If γ is such that assumption 3 holds with equality, the left hand side of (1.5) is zero, while the right hand side is negative, so the uneducated prefer the status quo. If γ is very high, the right hand side of (1.5) is greater than the left hand side because $\frac{\theta}{(m^S)^{1-(\alpha+\beta)}}<1$. Hence preferences switch and corollary 2 (ii) holds.

Cancelling positive common terms in (1.5), moving terms to one side, and differentiating w.r.t. $\bar{e}$, we get an expression that decreases with an increase in $\bar{e}$ iff

$-\left(\beta-\frac{\alpha}{\gamma}l^P\right)\theta\left(\frac{1-(\alpha+\beta)}{\left(m^S\right)^{2-(\alpha+\beta)}}\right)\left(1-\frac{1}{\gamma}\right)+\left[(1-\beta)-\frac{\alpha\theta}{\left(m^S\right)^{1-(\alpha+\beta)}}\right]\frac{dl^P}{d\bar{e}}<0$. The first term is clearly negative as is $\frac{dl^P}{d\bar{e}}$, so the expression will be negative if the term in square brackets is positive. But the term is indeed positive because of inequality (1.4) above. Moreover, using the same argument as in corollary 2 (ii), we can show that preferences switch for feasible values of $\bar{e}$. Hence corollary 2 (iii).

Proof of Corollary 3:

The educated prefer comprehensive reforms if

$$\alpha\theta\left(m^S\right)^{\alpha-1}(\bar{u})^{\beta}\left(1-\frac{1}{\gamma}\right)<\left(\frac{\alpha}{\alpha+\beta}\right)^{\alpha}\left(\frac{\beta}{\alpha+\beta}\right)^{\beta}\left(1-\frac{1}{\gamma}\right)\tag{1.6}$$

Clearly, the left hand side increases in θ and decreases in m^S, and m^S increases in $\bar{e}$. Thus the first two parts of the corollary. Finally cancelling common terms, and recognizing that m^S increases in γ, we get the last part of the corollary. Since it is not clear that the educated's preferences will flip between the status quo and comprehensive reforms for feasible γ, we have corollary 3 (ii).

Proof of Lemma 5:

For the oligopolist to make more conditional on choosing education, it must be that

$$(1-\alpha-\beta)\theta(m^E)^{\alpha}(l^E)^{\beta}+\alpha\theta(m^E)^{\alpha-1}(l^E)^{\beta}\left(1-\frac{1}{\gamma}\right)\geq\left(\bar{e}+\bar{u}\right)\alpha\theta(m^E)^{\alpha-1}(l^E)^{\beta}\left(1-\frac{1}{\gamma}\right)\tag{1.7}$$

Cancelling common positive terms, substituting $m^E = \left(\frac{\alpha}{\alpha+\beta}\right)(1+\bar{e}+\bar{u})\left(1-\frac{1}{\gamma}\right)$, and simplifying, we get, $(\alpha+\beta)\left(\frac{\bar{e}+\bar{u}}{\bar{e}+\bar{u}+1}\right)\leq\frac{1}{2}$, which implies $\alpha+\beta\leq\frac{1}{2}$ on applying assumption 2.

Proof of Lemma 6:

The educated's income share under the status quo is higher iff

$$\left(\frac{\bar{e}\alpha}{m^S}\right)\left(1-\frac{1}{\gamma}\right) > (1-\alpha-\beta)+\beta+\left(\frac{\alpha}{m^S\gamma}\right)\left(1-\frac{1}{\gamma}\right)-\left(\frac{\alpha\bar{u}}{m^S\gamma}\right) \tag{1.8}$$

Collecting terms and simplifying we get

$$(\bar{e}-1)\alpha > (1-\alpha)m^S - \frac{(\bar{u}+1-\bar{e})\alpha}{\gamma} \tag{1.9}$$

Now as $\gamma\to\infty$, $m^S\to\bar{e}+1$, and the second term in the right hand side of the inequality tends to zero. Because $\bar{e}$ is much larger than 1 by assumption 2, the required condition tends to $\alpha > 0.5$. Of course, because the right hand side of (1.9) falls with γ, we get lemma 6 (iii).

Proof of Lemma 7:

Adding the educated and the uneducated's income share, comparing with the oligopolist's income share, and simplifying, we require

$$\frac{(\bar{e}-1)\alpha}{m^S}+\beta-\frac{(\bar{e}+\bar{u}-1)\alpha}{m^S\gamma} > 1-\alpha-\beta \tag{1.10}$$

Substituting $m^S = \bar{e}+1-\left(\frac{\bar{e}+\bar{u}+1}{\gamma}\right)$ and simplifying, we get the required condition.

Table 1: Preferences of agents in different regions

(High Discount Factor)

		Oligopolists	Educated	Unskilled
	Best	SQ	PMR	CR
Area A		PMR	SQ	E
		E	CR	SQ
	Worst	CR	E	PMR
		Oligopolists	**Educated**	**Unskilled**
	Best	SQ	PMR	CR
Area C		PMR	SQ	E
		E	CR	PMR
	Worst	CR	E	SQ
		Oligopolists	**Educated**	**Unskilled**
	Best	SQ	PMR	CR
Area B		PMR	CR	E
		E	E	PMR
	Worst	CR	SQ	SQ
		Oligopolists	**Educated**	**Unskilled**
	Best	SQ	PMR	CR
Area D		PMR	CR	E
		E	E	SQ
	Worst	CR	SQ	PMR

SQ	Status quo
PMR	Pro market reforms
E	Education reforms
CR	Comprehensive reforms

Table 2: Scores Based on Voting Game

	Strategy	Score	Winning strategy
	SQ	6	
Area A	PMR	7	SQ
	E	9	
	CR	8	
	PMR	6	
Area C	SQ	7	PMR
	E	9	
	CR	8	
	PMR	6	
Area B	SQ	9	PMR
	E	8	
	CR	7	
	SQ	8	
Area D	PMR	7	PMR
	E	8	
	CR	7	

Table 3: Summary Statistics

Variable	(1)
Attitude towards competition	7.7898 (2.9391)
Male	.5674 (.4956)
Young	.4131 (.4925)
Middle age	.4021 (.4904)
resident of small town	.2652 (.4416)
resident of large town	.1603 (.367)
belongs to low caste	.1728 (.3782)
Education	4.4505 (3.0897)
Observations	2002

Table 4: Attitudes towards competition

	(1)	(2)	(3)	(4)
Male	0.219	0.028	-0.045	-0.015
	(0.259)	(0.183)	(0.186)	(0.202)
Young	0.166	0.129	-0.045	-0.059
	(0.350)	(0.252)	(0.263)	(0.262)
Middle age	0.077	0.186	0.097	0.099
	(0.308)	(0.235)	(0.243)	(0.245)
laborer	-0.756	-0.474	-0.475	
	(0.296)**	(0.295)	(0.301)	
manager		0.234	0.045	
		(0.163)	(0.190)	
education			0.075	0.059
			(0.030)**	(0.028)**
highest quartile income				0.845
				(0.228)***
third quartile income				0.435
				(0.179)**
second quartile income				0.445
				(0.275)
lowest quartile income				0.258
				(0.325)
Constant	8.590	9.668	9.474	9.069
	(0.514)***	(0.260)***	(0.261)***	(0.349)***
Observations	810	1288	1283	1283
R-squared	0.17	0.18	0.18	0.18

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

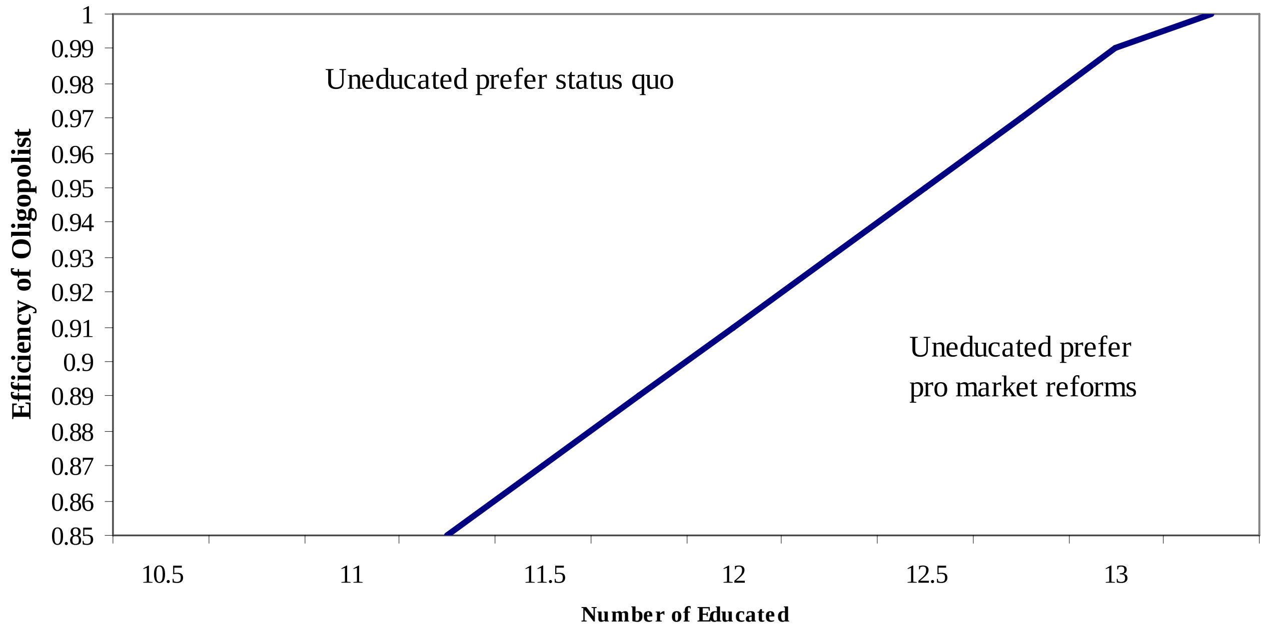
The dependent variable is the respondent's attitude towards competition from the 2000 World Value Survey for India. Young is an indicator if the respondent is below age 34, Middle age is an indicator if the respondent is between 34 and 55. Laborer is an indicator set to one if the respondent is a non-manual office worker, a skilled manual worker, a semi-skilled manual worker, or an unskilled manual worker. Management is an indicator set to one if the respondent owns or manages an office or enterprise or is a professional or supervisory worker. Education describes the extent of the respondent's education, ranging from 1 (no formal education) to 9 (completed degree at university). The Global Value Survey reports 9 income categories. I reclassify these roughly into quartiles. The highest income quartile corresponds to income categories g to k, third quartile corresponds to category f, second quartile to category e, and the lowest quartile to categories c and d. The omitted category is those with missing household income.

Table 5: Attitudes towards competition: The role of the opportunity set.

	(1)	(2)	(3)	(4)	(5)
Male	-0.056	-0.044	-0.039	-0.050	-0.055
	(0.179)	(0.186)	(0.185)	(0.178)	(0.178)
Young	-0.034	-0.030	-0.061	-0.046	-0.115
	(0.260)	(0.260)	(0.261)	(0.257)	(0.261)
middleage	0.093	0.097	0.058	0.053	0.011
	(0.247)	(0.243)	(0.246)	(0.249)	(0.253)
Laborer	-0.393	-0.441	-0.433	-0.336	
	(0.299)	(0.304)	(0.290)	(0.293)	
manager	0.089	0.042	0.059	0.100	
	(0.189)	(0.191)	(0.185)	(0.186)	
education	0.045	0.093	0.107	0.094	0.115
	(0.035)	(0.035)**	(0.032)***	(0.041)**	(0.037)***
Resident of large town	-1.155			-1.026	-1.113
	(0.425)***			(0.405)**	(0.373)***
Resident of large town * education	0.156			0.129	0.136
	(0.077)*			(0.078)	(0.076)*
Resident of small town		0.735		0.497	0.604
		(0.810)		(0.757)	(0.757)
Resident of small town*education		-0.109		-0.075	-0.089
		(0.054)*		(0.056)	(0.056)
belongs to low caste			0.953	0.902	0.917
			(0.430)**	(0.425)**	(0.427)**
belongs to low caste*education			-0.206	-0.192	-0.200
			(0.087)**	(0.087)**	(0.087)**
Constant	9.650	9.601	9.271	9.540	9.312
	(0.304)***	(0.751)***	(0.258)***	(0.739)***	(0.735)***
Observations	1283	1283	1283	1283	1283
R-squared	0.18	0.18	0.18	0.19	0.19

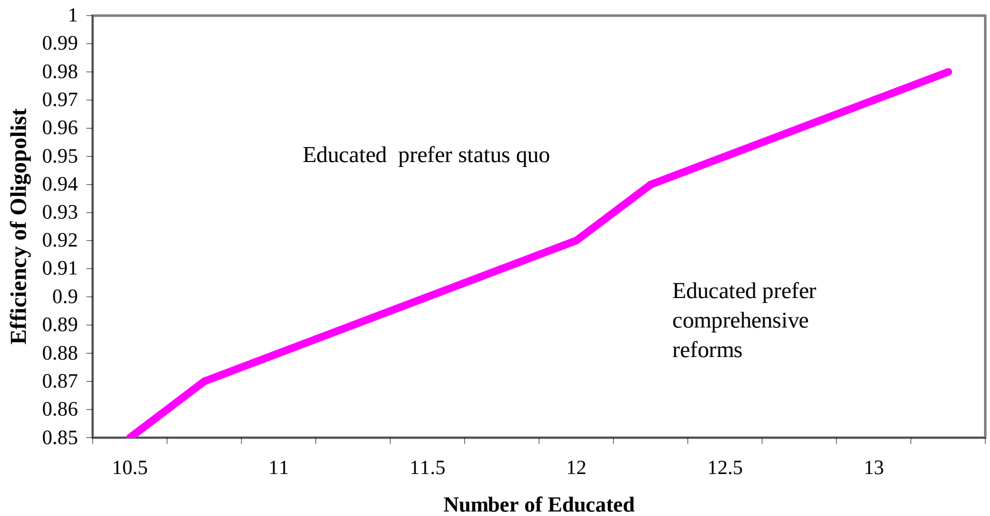
Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
The dependent variable is the respondent's attitude towards competition from the 2000 World Value Survey for India. Young is an indicator if the respondent is below age 34, Middle age is an indicator if the respondent is between 34 and 55. Laborer is an indicator set to one if the respondent is a non-manual office worker, a skilled manual worker, a semi-skilled manual worker, or an unskilled manual worker. Management is an indicator set to one if the respondent owns or manages an office or enterprise or is a professional or supervisory worker. Education describes the extent of the respondent's education, ranging from 1 (no formal education) to 9 (completed degree at university). Resident of large town is set to 1 if the respondent is from a town with more than 50000 inhabitants, while resident of small town is set to 1 if the respondent is from a town with less than 5000 inhabitants. Belongs to low caste is set to one if the respondent is classified as belonging to a backward caste, a scheduled caste, or a scheduled tribe.

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



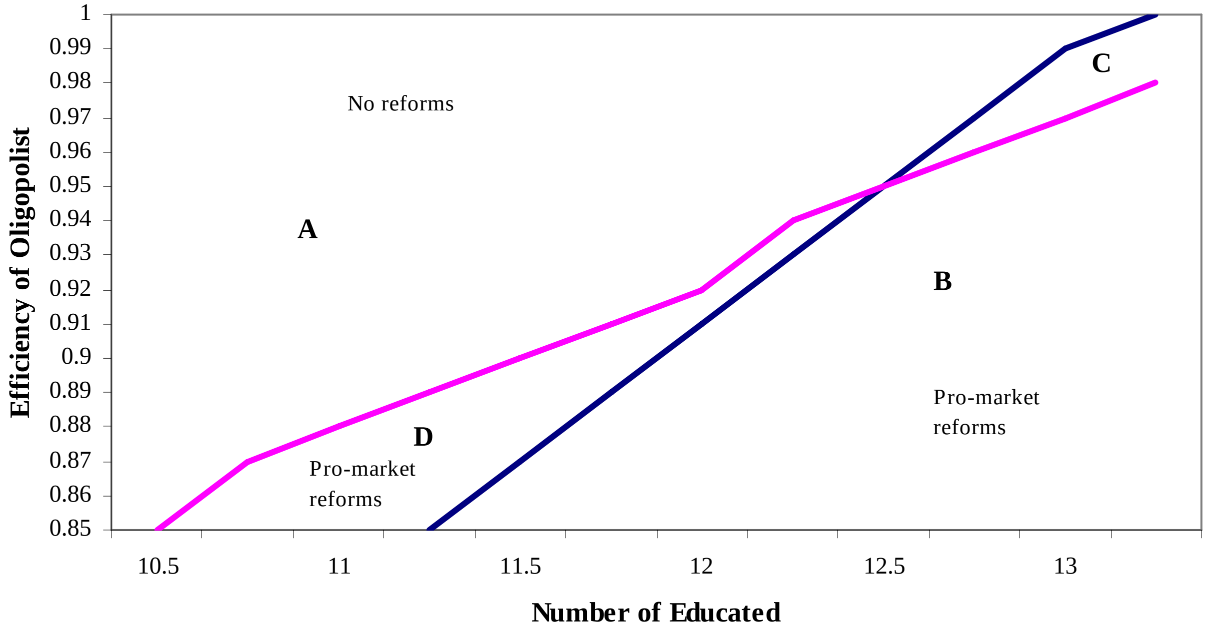
This graph has $\alpha = 0.5$, $\beta = 0.3$, γ =36, $\bar{u} = 100$.

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



This graph has $\alpha = 0.5$, $\beta = 0.3$, γ =36, $\bar{u} = 100$.

Figure 3: Reform Outcomes



This graph has $\alpha = 0.5$, $\beta = 0.3$, γ =36, $\overline{u} = 100$.