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Political Losers As a Barrier to Economic Development

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Abstract

In this paper, we argue that the more fundamental barriers to the adoption of better technologies, and more generally to economic development, are not groups whose economic rents are threatened by progress, but groups whose political power is on the line. We illustrate the basic issues using a simple model and provide a number of example that highlight the importance of “political losers” in blocking development.

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Per-capita income in many sub-Saharan African countries, such as Chad and Niger, is less than 1/30th of that of the United States. Most economists and social scientists suspect that this is in part due to institutional failures that make these societies not adopt the best technologies. Why do societies, as in this example, fail to adopt the best available technologies?

One answer is that existing powerful ‘interest groups’ block the introduction of new technology in order to protect their economic rents and societies are able to make technological advances only if they can defeat such groups. Economic monopolies may be one example. A monopolist might wish to block the introduction of a new technology by a rival that will capture the market. Similar incentives may arise when agents have invested in specific skills that will be less valuable by innovation. This idea, which we call the ‘economic losers hypothesis’ was discussed by Kuznets (1968) and developed at length by Mokyr (1990). These ideas have been formalized, among others, by Rios-Rull and Krusell (1996) and Parente and Prescott (1997). There are problems with this story however. First, despite the intuitive appeal of the idea, there are relatively few examples where major economic change was blocked by economic losers. Mokyr (1990), for example, emphasizes the attempts of many skilled artisans to block the introduction of new machines. The most famous example is the Luddites, skilled weavers who were thrown out of work by mechanization. Interestingly, however, many of these groups, including the Luddites, were unable to block economic progress. Equally important, the economic losers hypothesis relies on the presumption that certain groups have the political power to block innovation. But if they do have this power, why not use it to simply tax the gains generated by the introduction of the new technology? This might be because there are limits on the nature of fiscal instruments. A more important reason, however, may be that the introduction of the new technology, and economic change more generally, may simultaneously affect the distribution of political power.

In this paper we argue that the effect of economic change on the political power is a key factor in determining whether technological advances and beneficial economic changes will be blocked. In other words, we propose a ‘political loser hypothesis.’ We argue that it is groups whose political power, not economic rents, will be eroded that will block technological advances. If agents are economic losers but have no political power

they cannot impede technological progress. If they have and maintain political power (are not political losers) then they have no incentive to block progress. It is therefore situations where agents have political power which they expect to lose that generates the key incentive to block. Our analysis suggests that we should look more to the nature of political institutions and the determinants of the distribution of political power if we want to understand technological backwardness.

The ideas in this paper are closely related to Douglas North's emphasis on the political-economic determinants of institutional structure. North (1981) argued that good institutions might not be chosen by political elites because they did not necessarily maximize their revenues. North and Weingast (1989) in turn emphasized the inability of the political system to commit to future decisions. Our argument is related in that the currently powerful groups have to block economic change because there is no credible commitments to compensate them once economic changes been implemented. Robinson (1997) pursues a similar idea, and argues that dictators may act in a predatory fashion in order to protect their political power. In Acemoglu and Robinson (1999), we develop a more detailed theory in which the economic opportunities and the constraints faced by the elites determine the institutional structure and policies, and shapes the development experience.

In the next section, we use a simple model to illustrate our main points. In section II, we discuss how our approach gives a useful account of why landed aristocracy blocked economic development in Russia, but not in Britain or Germany.

I. A simple model

We will use a very simple two-period model to illustrate the basic issues. The economy consists of three groups of agents and two goods. The agents are a group of citizens (consumers), with measure normalized 1, a monopolist and a potential rival. The two goods are corn, x , which is produced competitively with price normalized to 1, and a manufacturing good, y , produced either by the monopolist or its rival, with price p , which will be determined endogenously. Citizens have income m in both periods and utility function

$$x_0 + \frac{1}{\alpha}y_0^\alpha + x_1 + \frac{1}{\alpha}y_1^\alpha$$

where subscript 0 denotes time $t = 0$ and 1 denotes time $t = 1$. There is no saving. This implies that their demand for the manufacturing good is given by $y_0 = p_0^{\frac{-1}{1-\alpha}}$. At time $t = 0$, the initial monopolist has the most advanced technology to produce y , which turns one unit of good x into π_0 units of good y ;

$$y = \frac{1}{\pi_0}x.$$

The monopolist also faces a proportional tax on its sales, denoted by τ_0 . Since the demand curve facing the monopolist is isoelastic, it will set a price that is a constant markup over marginal cost, hence $p_0 = \frac{1}{\alpha(1-\tau_0)\theta_0}$, where $\theta_0 = \pi_0$ is the technology in operation that time $t = 0$. This gives the monopoly profits as

$$\Pi_0 = \left[p_0(1 - \tau_0) - \frac{1}{\pi_0} \right] y_0 = (1 - \alpha)(1 - \tau_0)^{\frac{1}{1-\alpha}} (\alpha\pi_0)^{\frac{\alpha}{1-\alpha}}$$

We assume that the monopolist controls the political system at time $t = 0$. This entails three powers,:

1. It can set the sales tax τ_0 on the manufacturing good and receive the revenue.
2. It can collect a lump sum tax on the citizens $T_0 \in [0, \bar{T}]$.
3. By incurring some cost C , it can block the introduction of new technology $\pi_1 > \pi_0$ in manufacturing sector by the rival monopolist.

The tax on manufacturers enables us the model the possibility that the monopolist will allow the introduction of the better technology, and tax the ensuing revenue. The lump sum tax on citizens parameterizes how important it is for to the monopolist to stay in power. Finally, the option to block is essential for our discussion.

We assume that if the new technology is not introduced, the monopolist keeps control of the political system with probability q , and with probability $1 - q$ the rival monopolist comes to power. Whereas if the new technology introduced, the initial monopolistic power with probability s and loses power to some other rival with probability $1 - s$. If $s < q$, then political power is dependent on the monopolist's economic position in that when it blocks the introduction of new technology, it is more likely to remain in power.

Profits and prices at time $t = 1$ are given by similar equations above as $p_1 = \frac{1}{\alpha(1-\tau_1)\theta_1}$, where θ_1 is equal to π_0 if the new technology is blocked and equal to π_1 if the technology is introduced, and τ_1 is the relevant tax rate. The resulting profits are, therefore,

$$\Pi_1(\theta_1) = (1 - \alpha)(1 - \tau_1)^{\frac{1}{1-\alpha}} (\alpha\theta_1)^{\frac{\alpha}{1-\alpha}} \quad (1)$$

to the monopolist who is supplying good y , and $\theta_1 = \pi_0$ or π_1 .

We can now analyze the behavior of the incumbent monopolist. First, since pricing and taxation decisions at time $t = 0$ do not have an effect on $t = 1$ outcomes, the monopolist will choose $\tau_0 = 0$ and $T_0 = \bar{T}$, the maximum tax available. Next, to determine whether the monopolist will decide to block the introduction of the new technology, let us calculate its payoff under different scenarios. First, if the monopolist blocks the introduction of new technology (B) and remains in power (P), we can use (1) and the fact that it will choose the maximum tax rate on the citizens, to obtain

$$V(B, P) = \bar{T} + \Pi_1(\pi_0) = \bar{T} + (1 - \alpha) (\alpha\pi_0)^{\frac{\alpha}{1-\alpha}}$$

where B denotes “blocking”, and P denotes “in power”.

Alternatively, the monopolist may lose political power (NP), with probability $1 - q$. If additionally it blocks the new technology so that it remains the monopolist at time $t = 1$, its return is $V(B, NP) = \Pi_1(\pi_0)$ where we have assumed that in this case, no one replaces the monopolistic power, so there are no sale taxes either.

Suppose next that the monopolist is in power but has not blocked. Its return in this case will depend on the tax revenues that it will raise from the rival monopolist. This tax revenue is given by

$$\mathfrak{S}(\tau_1) = \tau_1 p_1 y_1 = \tau_1 \frac{1}{\alpha(1-\tau_1)\pi_1} \left(\frac{1}{\alpha(1-\tau_1)\pi_1} \right)^{\frac{-1}{1-\alpha}} = \tau_1 (\alpha(1-\tau_1)\pi_1)^{\frac{\alpha}{1-\alpha}}$$

which yields the revenue maximizing tax rate as $\tau_1 = 1 - \alpha$. So the maximum tax revenue for the incumbent monopolist is

$$\mathfrak{S}^* = (1 - \alpha) [\alpha^2 \pi_1]^{\frac{\alpha}{1-\alpha}}.$$

Therefore, the return to the monopolist of remaining in power but not blocking the innovation is $V(NB, P) = \bar{T} + \mathfrak{S}^*$. Finally, it is clear that if the monopolist does not block and loses power, it gets $V(NB, NP) = 0$.

Now consider the return to the two possible strategies, blocking and not blocking, by the monopolist $V(B) = q[V(B, P)] - C$, and $V(NB) = sV(NB, P)$. Then it is clear that the monopolist would like to block the introduction of the technology if and only if

$$(q - s)\bar{T} + (1 - \alpha)(\alpha\pi_0)^{\frac{\alpha}{1-\alpha}} - s(1 - \alpha)(\alpha^2\pi_1)^{\frac{\alpha}{1-\alpha}} > C$$

Intuitively, $(q - s)\bar{T}$ is the expected loss of political rents by the monopolist when it does not block the introduction of new technology. It also loses its profits $(1 - \alpha)(\alpha\pi_0)^{\frac{\alpha}{1-\alpha}}$ from the sale of the good y , but if it maintains critical power it can tax new monopolist and collect revenues, so there is expected gain of $s(1 - \alpha)[\alpha^2\pi_1]^{\frac{\alpha}{1-\alpha}}$ from not blocking. If the gaze of blocking exceed the cost C , the monopolist will block.

The first thing to notice is that since $\alpha < 1$ and $\pi_1 > \pi_0$, $\mathfrak{S}^* > \Pi_1(\pi_0)$, so the monopolist would make greater revenues by taxing more advanced technology of its rival, in part because in this case it does not have to pay the input costs. Given the elasticity of the demand curve for the manufacturing good, it immediately follows that if $q = s = 1$, then the monopolist would never want to block. Instead, it would allow the introduction of the more advanced technology, it would still collect its political rents from the taxation of citizens \bar{T} , and make greater revenues from the taxation with rival that it would have made as profits by producing a good. Therefore, in our economy economic users would never block the adoption of new technologies. Blocking arises, instead, when the political power of the incumbent is threatened by economic innovation, i.e. when $s < 1$.

We can therefore summarize the main implications of the simple model as follows.

Result The incumbent monopolist is more likely to block the introduction of new technologies when

1. $q - s$ is higher and s is smaller, i.e. when it is relatively more likely to stay in power when it blocks introduction of the new technology.
2. \bar{T} is higher, i.e. when political rents from staying in power are greater.
3. π_0 is higher, i.e. when monopoly profits from blocking are greater.
4. π_1 is lower, i.e. when the tax revenue they can collect from its rival are smaller.

II. Political power and resistance to economic development: the case of landed aristocracy

In the previous section, we illustrated how groups whose political power is threatened are likely to attempt to block the development, while groups whose economic rents are being eroded may want to allow change if they can simultaneously hold onto political power. We will now argue that these ideas enable us to provide an interesting interpretation to the attitudes of the landed aristocracy to the rise of capitalism in 19th-century Europe.

As Ricardo and Marx both argued, landed interests were likely to be opposed to industrialization. As urban centers grew, population migration was likely to increase real wages and reduce rents and land prices. Moreover, in Western European countries with comparative advantage in manufacturing, industrialization and free trade was likely to reinforce these effects. Thus landed interests were plausibly going to be economic losers as a result of the industrial revolution. Our hypothesis is that landed interests, which uniformly controlled political power on the eve of the industrial revolution, opposed the rise of manufacturing in countries where their political power was threatened, such as Russia, but not in societies where they could maintain their political power despite the rise of the new economic class, such as in Britain and Germany.

The evidence supports our claim that landed interests were economic losers from industrialization. Consider Britain. During the first half of the nineteenth century real land rents and prices rose despite industrialization. This seems to have occurred even after the 1846 abolition of the Corn Laws because rapid population growth made stagnant real wages consistent with migration and the rising urban demand for food kept up agricultural prices (see Clark, 1995). However, from the 1870's onwards international competition led to falling real rents and land prices, a process which continued up until the 1940's (only interrupted by wars). The economic situation is similar in Germany.

Despite these economic developments, in neither country did landed groups attempt to block industrialization. We argue is that in both countries landed groups were able to guarantee their continued political power. In Britain, despite the franchise reforms of 1832, 1867 and 1884, the House of Lords guaranteed the security of landed interests until the Liberal government of Asquith after 1906. In Germany, the landed Junker

aristocracy forged the coalition of 'Iron and Rye' with the rising industrial class to secure their economic interests were compatible with industrialization. There are important differences; after the 1870's the Junkers were able to gain protection for their output, while British landowners were not.

Thus in these two cases the fact that economic losers thought that their political power was secure meant that industrialization proceeded unimpeded.¹ The situation was very different in other countries, particularly Russia and Austria-Hungary. At the start of the industrial revolution both countries were ruled by absolutist monarchies and landed elites. In both countries these elites attempted successfully to block industrialization because they saw it as a threat to their political power. In Russia, after the Decembrist putsch economic development was opposed since, as Mosse (1992) puts it "it was understood that industrial development might lead to social and political change." Gregory (1991) argues, "Prior to the about face in the 1850's, the Russian state feared that industrialization and modernization would concentrate revolution minded workers in cities, railways would give them mobility, and education would create opposition to the monarchy." It was only when the defeat of the Crimean war showed the Tzars that being so backward technologically made them highly vulnerable externally that this policy was changed (see MacDaniel, 1988). The reaction of the Hapsburgh elites was very similar. Gross (1973) argues, "In domestic as well as foreign policy the *Vormärz* regime, from 1815 to 1848, was determined to prevent another French Revolution anywhere in Europe. From this principle Francis I derived not only his opposition to the growth of industry (and with it of a proletariat)...but his general reluctance to permit any change whatsoever." Interesting, Austria-Hungary presented a conundrum to Gerschenkron's hypothesis that the state should play an important positive role in more backward countries. In Austria-Hungary, the state had not only failed to promote industrialization, but rather, "economic progress began to be viewed with great suspicion and the railroads came to be regarded, not as welcome carriers of goods and persons, but as carriers of the dreaded revolution. Then the State clearly became an obstacle to the economic development of the country," (Gerschenkron 1970).²

¹As Mokry (1990, p243) notes about Britain, "the landowning elite, which controlled political power before 1850, contributed little to the Industrial Revolution in terms of technology or entrepreneurship. It did not, however, resist it."

²See also Gerschenkron (1977).