Educated Bandits: Endogenous Property Rights and Intra-elite Distribution of Human Capital

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Abstract

Zimbabwe has gravitated to obliterating the institutions of property rights whereas Malaysia managed to maintain stable property rights in spite of strained ethnic and economic cleavages. This difference can be explained in terms of the historical distribution of human capital among the elites and the exit options available to educated labor. This paper adopts the fundamental view that the path of institutional change is defined by the degree of rule of law among the elites. A simple model of endogenous property rights is formulated explaining the emergence of a non-predatory state as a function of the distribution of productive human capital between political and economic elite groups. The model exploits the complementarities between physical and human capital to explain the commitment of political elites to respect property rights. Intra-elite democracy is shown to be emerging as a commitment device for the ex-post protection of property rights under certain conditions. The model also derives a hybrid regime where partially institutionalized property rights coexist with non-democracy. The existence of an exit option for human capital to flee the formal sector (or that particular jurisdiction in the form of brain drain) is shown to have the potentials to undermine the transition to stable property rights. A simple extension of the baseline model shows, when an oligarchic collusion between the productive political elites and the economic elites is possible, the presence of a bureaucratic political elite segment becomes essential for intra-elite democracy to emerge as a potential outcome.

Keywords: property rights, human capital distribution, elites, democracy

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I. Introduction

With the advent of the modernization hypothesis pioneered by Seymour Lipset (1959, 1960), education has been gaining prominence as one of the major driving forces behind institutional change. However, there has been little attention given to the link between education and economic institutions such as property rights. Beginning with Lipset himself, much of the theoretical argument has been directed toward the role of education in the creation and consolidation of political institutions. In spite of the mounting evidence on the relationship between the protection of property rights and economic development, there is not sufficient connection established between education and property rights with reasonable theoretical rigor. Most of the explanation of the state of property rights in different societies remains confined to exogenous factors such as legal origin, resource endowment and critical junctures of history\(^1\). This paper seeks to add to the vein of the formal theory of endogenous institutional change by linking human capital to institutional change. Specifically, it attempts to examine the joint impact of the distribution of human capital and the exit options of educated labor on the emergence of stable property rights.

The scope and definition of property rights adopted for this study is fairly general. The state is not depicted as a benign framer and third-party enforcer of property rights. On the contrary, as an embodiment of the collective interest of the political elites, the state is assumed to be a major player in the game of predation on private production. I follow the North et al (2009) framework to conceptualize the emergence of property rights as the establishment of rule of law between the political and economic elites\(^2\). The focus on elites is warranted because, in most societies that have not yet developed stable property rights, productive capital is normally owned by an exclusive class of economic elites.

In pursuing the central theoretical argument more formally, a simple model of endogenous property rights is formulated explaining the emergence of a non-predatory state as a function of the distribution of productive human capital among the elites. In order to simplify the analysis, the stock

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1 See Levine (2005) for a complete survey of those perspectives. For specific empirical analysis on each of the factors, one may refer to La Porta et al. (1999) for legal origin, Engerman and Sokoloff (1997) for resource endowment and Acemoglu et al. (2001) for critical junctures.

2 North et al. (2009) argue, for most part of recorded human history, the institutions that define the rule of the game and determine the relationship of the state with the rest of the economy are shaped by the interplay between elites.
and distribution of human capital is kept exogenous. The model exploits the complementarities between physical and human capital to explain the incentive compatible commitment of political elites to respect property rights. Intra-elite democracy is shown to be emerging as a commitment device for the ex-post protection of property rights under certain conditions. The model also derives a hybrid regime where partially institutionalized property rights coexist with non-democracy. The theoretical underpinnings behind this last regime type could help us understand many of the fast growing countries in the world featuring hybrid political and economic institutions. ‘Greener pastures’ in the informal sector (what could alternatively be considered as a foreign economy) could attract physical capital as well as human capital away from the formal sector and consequently remove the incentive for establishing property rights.

The baseline model is extended later to allow for the possibility of heterogeneity in the type of human capital possessed by the political elites. The extension also makes room for the additional outcome of oligarchy which is assumed to happen when the political elites with productive human capital collude with the economic elites. If intra-elite democracy is attained solely because it serves as a commitment device to protection of property rights, the availability of the oligarchy alternative undermines the prospect of (intra-elite) democratization. In such cases, it might be more optimal for society to obtain a certain segment of bureaucratic elites, neutralizing the tendency of the productive segment to collude with the economic elites.

To portray the theoretical discussion in the appropriate context, some important qualifiers are in order. So as to command a degree of systematic influence that is strong enough to shape durable institutions, both the political and economic elite groups should be numerous enough and extend beyond the domain of a few families. In most cases, they could be viewed as ethnic or racial groups, clans, or predetermined members of a political party that garner substantial political or economic control compared to the rest of the society. The core of the theoretical argument that is pursued in this paper lies in the representation of the human capital of the elites as a marketable asset which may require physical capital to complement it in production. As in most other aspects of political economy, the politics behind the determination of the institutional structure is influenced more by the distribution than the level of resources. That is why the central focus of the analysis of intra-elite property rights is pinned on the distribution of human capital between the political and economic elites.
This paper offers a new version of the ‘stationary bandits’ hypothesis by arguing that the interest of the political elites on economic stability can emanate not only from increased tax revenues but also from better returns on their own human capital\(^3\). It might seem difficult to imagine political elites who are at the same time employed in productive activities. One way to approach this issue is to adopt a dynastic or overlapping generations conceptualization of political elites. This conceptualization differentiates between the ‘parents’ with political power and the ‘offspring’ with productive human capital. As far as utility is transferable between the two groups, predation decisions will be made by the parents in light of the potential tradeoff in terms of human capital returns for the children. Another way to conceptualize the productive use of the human capital of the political elites is to adopt a two-period timeline according to which the political elites hold political office in the first period and retire to assume productive employment in the second. Given their discount rate falls in a reasonable range, the political elites align their interest as productive employees at a later stage of their life with their decision to establish (or not to establish) property rights institutions in their youthful years. Li (1998) credits the Chinese policy of setting term-limits on bureaucratic tenures and allowing senior bureaucrats to join business firms after retirement to the improvement of bureaucratic efficiency in the 1990s.

In a major departure from the common practice in the literature which implicitly assumes a positive or zero growth of human capital, this paper allows for the possibility of negative human capital growth in the form of skilled emigration. More specifically, the theoretical analysis sheds light on the link between potential emigration of human capital, which is commonly referred to as brain drain, and the likelihood of instituting stable property rights. In an increasingly globalized world where capital and labor become more mobile from time to time, the incentives for building robust domestic institutions in a certain jurisdiction are hardly insulated from the influence of external alternatives. In this regard, the major argument advanced in this paper relates to the enticing effect of external returns on physical and human capital that may be undermining the development of property rights institutions domestically.

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\(^{3}\) Mancur Olson (1993) distinguishes between two major types of dictatorships in the form of ‘roving bandits’ (i.e. anarchy) and ‘stationary bandits’ (i.e. tyranny). He argues that a stationary bandit form of governance could allow for a certain level of economic security because the dictator expects to stick around for long enough to share the benefits of the economic success.
The idea that political elites could be behind institutional change which eventually undermines their own power is not new to the literature. The strand of theoretical propositions pioneered by North and Thomas (1973) and further popularized by the “roving vs. stationary bandit” characterization of Olson (1993) espouses that political and economic order will be created by revenue interested political elites. As mentioned above, the major departure in this paper from that vein of literature lies in its focus on market returns generated by the elites themselves as the motivating factor for institutional change.

A handful of theoretical models tried to factor in the role of education in determining political equilibrium. One of the earliest of such attempts comes from Perotti (1993) in a model where he assumed that education influences political participation and the oligarchic hegemony would decide on investing in public education based on ex-ante expectation of potential changes in the political landscape. Bourguignon and Verdier (2000) presented an extended version of Perotti’s model. Glaeser et al (2008) model democracy as a function of education with the assumption that schooling raises the tendency for civic engagement and political participation. However, Campante and Chor (2008) scrutinize the seemingly well accepted role of schooling as a driver of political participation by conditioning it on factor endowment. Eicher et al (2009) try to disentangle the endogenous relationship between institutional quality and human capital to finally conclude that other socioeconomic fundamentals such as inequality are responsible for both.

Murphy et al (1993) analyze the allocation of talent in the face of the choice between rent-seeking and productive activities. Similarly, Ehrlich and Lui (1999) examine the decision between investment on political capital and investment on human capital under alternative political regimes. Pecorino (1992) asks much related questions to the above studies but introduces the effect of specialization in either of the productive or rent-seeking activities. The distinction between productive and rent-seeking activities in the cited studies resembles my characterization of formal and informal sectors. However, all the three papers focus on the direct implications of the choices in question for economic growth rather than for the underlying institutions.

The game-theoretic framework in the formal model in the present paper is closely related to the model of democratization presented in Acemoglu and Robinson (2005). The centrality of capital-skill complementarities in influencing the incentives of various elite groups draws precedence in the
work of Galore and Moav (2006). The joint evolution of democracy and property rights is inspired by Gradestein (2007). The closest that comes to the present paper in explaining the redistributive tendencies of an elite-dominated society in terms of the complementarities or substitutability in the production process between the factors controlled by the elites or other social groups is Bourguignon and Verdier (2010). But it still falls short of the specific focus on property rights and human capital, which is highlighted as the central contribution of the present paper.

The rest of the paper is organized in four sections. The next section takes the role of setting the context with fairly detailed historical accounts from three country case-studies. The dynamics in property right institutions at critical junctures in the respective histories of Malaysia, Zimbabwe and Ethiopia is assessed with reference to the human capital distribution between elites and the viability of the exit options available for educated labor. Section three comes in as the centerpiece of the paper. It presents the baseline model of endogenous property rights in a way that provides the analytical underpinnings for the historical narratives articulated in section two. Section four offers a simple extension of the baseline model with the introduction of heterogeneity in the human capital of the elites and the concept of minimum winning coalition. Section five summarizes the cohesive threads running through the historical narratives and the theoretical propositions, and concludes.

II. Comparative narratives: the tale of three countries

The histories of most societies of the world have shown that the distinction between political and economic elites could not be more vivid than at historical junctures following the occurrence of profound societal events such as decolonization or revolutions. In many cases, the distinction becomes blurred after social contracts are renegotiated between those who are in control of the state and those who possess material resources. On face value, most populist events such as revolutions could be depicted as truly broad-based and completely non-elitist. However, as political theorists have repeatedly asserted, such populist transformations are presided by some sort of shadow ‘elites-to-be’.

“Even when the discontent of the masses culminates in a successful attempt to deprive the bourgeoisie of power, this is ...effected only in appearance; always and necessarily there springs from the masses a new organized minority which raises itself to the rank of a governing class” Michels (1915, pp. 354)
The same is true in most of the less dramatic transformations such as eventual decolonization that have shaped the political economy of much of today’s developing countries. The prevalence of institutional path-dependence is intertwined with substantial persistence in elites’ interests resulting in, at best, the emergence of new elites with old interests (Robinson, 2010).

The distinction between political and economic elites is rather pronounced in cases where socioeconomic patterns preceding the transformation, coupled with demographic factors, are stacked in such a way that a certain ethnic or racial group will emerge as a ruling class while another dominates the economy.

The following subsections provide historical account of the evolution of property rights in three countries. Two of the countries are characterized by the domination of political and economic elites that are strictly aligned along ethnic or racial lines. Both of them were colonized by the British, demonstrated relatively robust pre-independence economic performance, and maintained comparatively stable first decade after independence. These countries are Malaysia and Zimbabwe; two countries that have become distinguishable for the 21st century observer as the polar cases of economic success and failure. The third country is Ethiopia, a country that has no colonial history, but was rather characterized by longstanding feudalist institutions that had already created a sharply divided class structure at the time of the 1974 revolution. Regardless of the stark differences evident in their histories, Ethiopia (ca.1974-1991) and Zimbabwe (post-1990s) ended up having similar predatory institutions.

In presenting the bits and pieces of historical developments in the eras preceding and following decolonization (revolution, in the case of Ethiopia), I maintain the same undercurrent to the whole story such that a systematic link could be traced between the distribution of human capital and the evolution of property rights.

a. Malaysia

The Malay of Malaysia (commonly referred to as ‘Bumiputra’, together with other – smaller – indigenous tribes) constitute the majority of the Malaysian society; whereas the ethnic Chinese, who accounted for 38.4 percent of the population in 1947, have wielded far higher economic power for
more than a century. No matter how the majority of the Malay population remained impoverished throughout the colonial period, the traditional ruling class was able to maintain various Sultanates across the country. Those traditional institutions were exploited by the British to keep the social order intact at the same time as they served as cocoons for an aristocratic class that would emerge as political elites at independence.

On the other hand, the ethnic Chinese, who were immigrants of recent generations, thrived in commerce by taking advantage of their close-knit personal networks. “Differences in cultural orientation toward capital accumulation were partly responsible. But organizationally, Malays lack institutions that could mobilize capital and pool economic resources effectively.” (Jesudason, 1989, pp. 36) Therefore, long before independence, the Malaysian society had already taken shape as one that would be dominated by exclusive groups of political and economic elites.

The traditional ruling class of the Malay society was not only privileged to maintain its place in the social hierarchy; the British also groomed the children of the aristocratic elites for bureaucratic responsibilities in the Malay Administrative Service (created in 1910). That is the main reason why the elite college of Kuala Kangsar was established in 1905 to provide English-based training for the sons of the Malay upper class (Drabble (2000), Jesudason (1989), Higgins (1982)). Apart from the targeted and elitist provision of educational opportunities to Malay aristocrats, the overall expansion of education among the native people, particularly in rural areas where the majority resided, remained abysmal. The Chinese, on the other hand, being by far the majority of the urban population, had a great advantage in the numbers able to attend the more advanced urban schools (Taib and Ismail, 1982).

The former colony of Malaya gained independence in 1957 and was united with two other territories to form the current nation of Malaysia. The post-independence political economy history of Malaysia can be summarized in two major epochs. The pre-1969 period may be considered as the time of transition and consolidation of the pre-independence Malay elites. During that period, foreign – particularly British – capital continued to dominate the major economic sectors in the country (Gomez, 1999). Moreover, the grand alliance of Malay and Chinese parties formed to take over the country from the British enabled a bargain for modus operandi so that Chinese capitalists preserve and expand their interest in the first decade after independence (Jomo, 1986). In spite of
the stability and commendable economic performance in the economy, the growing inequality in the new independent country in general, and among the Malay in particular, fomented substantial frustration that eventually led up to the 1969 riots.

In the aftermath of the riots and after subsequent political reshuffling, the state assumed a more interventionist, and sometimes authoritarian, role in different aspects of the economy. The government actively sought increased Malay representation in the capitalist economy in terms of employment and ownership. Expectedly, “those policies were met with resistance from the Chinese investors. Although some of the larger Chinese firms were able to expand rapidly because of the high growth rates of the 1970s and early 1980s, they chose safe and easy areas of expansion, generally staying away from manufacturing” (Jesudason, 1989, pp. 128).

The Malaysian political system has remained semi-democratic ever since, with demonstrated dominance of a single party hegemony. But the state has always been cautious in its dealing with private capital. In the face of strained ethnic and wealth relations that have defined the nation's history, no instance of outright expropriation and systematic predation has occurred in Malaysia. Rather, the country emerged as one of the fastest growing economies of the world in late 20th century.

b. Zimbabwe

Zimbabwe has a bitter colonial history compared to Malaysia, mainly because it was a settler colony ruled by a very small minority. Although they made up only 3.8 percent of the population, at independence the modern sector of the economy was almost entirely owned and managed by the whites (Jenkins and Knight, 2002). Legislations like the Land Apportionment Act of 1930, which has legalized the balkanization of the country into white and black areas, contributed a lot to the systematic discrimination in the economic system against indigenous blacks. The settler state contributed to the creation and entrenchment of minority economic elites by “facilitating and directly participating in the accumulation of capital both inside the country and abroad” (Cokorinos, 1984, pp. 12). The marginalization of the black majority was not limited to capital accumulation; it was rather all rounded to the extent that blacks and colored people were excluded by the 1931 act from entering the established posts in the civil service (Murapa, 1984). Hence, unlike other settler colonies in Africa such as Kenya, the political economy structure of South Rhodesia (the colonial
name of Zimbabwe) did not allow for even a minimal level of development of a would-be political elite class among the black majority.

The picture in terms educational equity in pre-colonial Zimbabwe was no less depressing. “Before independence educational opportunities for black children were severely limited, and just as much in qualitative as in quantitative terms. The latter were bad enough: only 42 percent of children of primary school age were at school in 1979, and less than 20 percent of the primary school leavers were able to find secondary places, and even then to be faced with high exclusion rates after two and four years” (Stoneman and Cliffe, 1989, pp. 168). The modern economic sector was structured in such a way that it would allow the absorption of only a few selected graduates. Apprenticeship opportunities were virtually inexistent for black students, adding to their substantial disadvantage in acquiring marketable skills.

By the time Zimbabwe gained independence in 1980, the prospect for harmonious relationship between the new, fractured political elites and the white economic elites was not rosy. Independence was not gained in the same way as in other African countries, either through negotiating peaceful handover with the colonial power or by winning outright victory in the war. “Instead, the Black government took over a bruised, but not defeated, settler state which contained powerful anachronistic elements that were hostile to the political project of the new regime” (Herbst, 1990, pp. 30). The Lancaster House Agreement, negotiated by the British on behalf of the settlers, instituted the protection of private ownership of property particularly - but not limited - in land. The transition period of the first decade of independence was marked by the consolidation of political power in the hands of the ZANU-PF elites and the increasing retreat of the white minority into the business sector.

The demise of the long-term stability of the Zimbabwean economy began silently as the human capital base of the economy continued to be eroded through net emigration of the white population beginning in mid-70s. “The 1969 census showed that 41 percent of whites in Rhodesia were born there; 23 percent were born in the UK; and 22 percent in South Africa. This meant that around half of the white population had right of residence elsewhere, and South Africa at least was sympathetic to applications for immigration to Rhodesian-born whites” (Jenkins and Knight, 2002, pp. 27).

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4 ZANU-PF: Zimbabwe African National Union (Patriotic Front)
Therefore, even if the Lancaster House Agreement devised an incentive scheme intended to forestall mass exodus, the slow and persistent emigration had already started depriving Zimbabwe of the expertise it needed as a new country. Although the Zimbabwean government invested aggressively in delivering education to the black population, and has achieved a commendable milestone in educating a substantial portion of the population, it could not reverse the damage inflicted through the hemorrhage of the accumulated experience. On top of that, the educational expansion of the 1980s lost steam as the rate of unemployment among the educated rose. Moreover the heavy expenditure strained the fiscal balance and the quality of education gets compromised against ambitious expansion (Shizha (2006), Stoneman and Cliffe (1989), Jenkins and Knight (2002)). Brain drain from Zimbabwe is not only a white phenomenon. There has been an equally astounding amount of exodus of black Zimbabweans particularly to South Africa (Crush and Tevera, 2010). This trend has been dramatically intensified by the fall of apartheid and the establishment of a black majority government in South Africa.

In comparison to the brain drain, capital flight was more subdued in the first decade after independence. This is partly because of the de jure protection provided by the Lancaster House Constitution as well as the protectionist policies that were maintained by the black elites, who were also a petite bourgeoisie themselves, in favor of the manufacturing sector. But the second and indirect reason discouraging capital flight was the foreign exchange control imposed by the government. One of the first measures prescribed by the International Monetary Fund and accordingly implemented by the Zimbabwe government as part of the Economic Structural Adjustment Program (ESAP) in the early 1990s was foreign exchange liberalization. This might have led to expedited outflow of capital preceded by the decade long brain drain of the white population.

The de facto erosion of the property rights institutions in Zimbabwe has been in the making for a long period of time with the deep rooted mistrust between the minority economic elites and the majority black population. Even if the black petite bourgeoisie benefited substantially from the dependent capitalist system inherited from colonial times, socialist tendencies remained the overtone of the general policy directions of the post-independence regime. Although the government said that it wanted foreign investment, for instance, it consistently refused to sign the United States Overseas Private Investment Corporation agreement, which contains a guarantee not to nationalize without compensation (Jenkins and Knight, 2002). The political elites demonstrated increasing tendencies of
bureaucratic predation and political profiteering in the background of a simmering popular discontent against delayed land redistribution. Judged from the point of view of the political economy history of the nation, the land seizures of the late 1990s and early 2000s, which essentially triggered the economic crisis that obliterated Zimbabwe, were the logical culmination of a long-winded institutional deterioration.

c. Ethiopia

Ethiopia is an ancient country which did not fully embark on the journey of modernization until the end of the 19th century. The society was hampered by substantial inertia caused by traditional elites, customs and religious beliefs and isolation from established civilizations. The socioeconomic structure and non-progressive ideas of the ruling elites had for centuries held down the formation of a strong middle class that can carry out the task of popular unity and modernization in Ethiopia (Teferra, 1990). Political power had always been concentrated in the hands of the Northern and Central dynasties ensconced at the center of the patronage network of the landed nobility. For most part of the its history, political power in Ethiopia was amalgamated with economic influence emanating from access to land and state resources. Capitalistic wealth creation was hindered due to the systematic bias against private enterprise induced through feudalistic attitude and institutions. The efforts to modernize the country resumed with increased vigor after the Ethio-Italian war (1936-1941). But local entrepreneurship remained weak. Less than 8 percent of the members of the Chamber of Commerce were Ethiopians in 1944 (Teferra, 1990). However, the ruling class maintained substantial control of the economy by exploiting the state monopoly in lucrative trade and industries while they distribute patronage through land grant and landlordism. Regardless of that, the spirited pursuit for development was able to bear some fruit particularly by boosting industrial growth in the order of 8.8 percent per annum in the last decade of the imperial regime (Kebbede, 1992).

Although a fragmented system of church education existed dating back to the ancient kingdoms of Ethiopia, modern education as we know it is a 20th century phenomenon. The seeds of modern education were sown when Emperor Menelik instituted a school in his palace in 1905 for the children of the nobility, followed by the first formal school established in 1908 named after the Emperor. The post-war years (post-1941) saw a full scale investment in education such that
“throughout the 1940s and 1950s there were far too many schools for students” (Negash, 2006). The substantially high returns to education in the first few decades of the post-war era were able to entice enough children of humble background. On the contrary, many of the rich and the aristocracy did not find the economic returns to education more attractive than the lifestyle and comfort they could automatically secure due to their inheritances. A survey conducted in 1969 on university freshmen found out that a good portion of the student body actually originated among the lowest socioeconomic group (Balsvik, 1985).

The honeymoon period of a blooming education sector and a productively accommodating labor market was short-lived. The ambitious expansion of formal education eventually outstripped the ability of the still backward economy to create jobs. “As early as 1973, up to 25 percent of the secondary school graduates were unemployed” (Negash, 2006). The frustration caused by unemployment among the educated was compounded by the feeling of alienation brought about by the familiarization of the young minds to foreign paradigms that were conflicting with the socioeconomic reality they found themselves in. That was at the root of the situation which gave rise to the conceiving of the Ethiopian revolution inside the very colleges and high schools the old order helped establish.

As formidable as it was in spreading its populist transformation ideology, the student movement lacked the organizational base to launch effective change. “The forces that undermined and finally brought down the old order were pathetically unable to propose a viable replacement” (Wgaw, 1979, pp. 203). The military establishment was the only coherent and viable institution that had been built by the Emperor; and it was the strongest one of those who stepped forward to take advantage of the revolution and grab power. The intellectual movement was aggressively side-tracked by the military junta as the line officers who hijacked the revolution consolidated their power by executing many of their internal opponents. The majority of the 108 original members (of the junta) were either rank-and-file soldiers or non-commissioned officers with little education and no knowledge of how governments are run (Wolde-Giorgis, 1990).

The officers acquired an economic base for their government by creating state ownership of all rural and urban lands, industries, and major commercial and trading activities (Teferra, 1990). After land was nationalized by the government and almost all sectors heavily regulated, the fragile economic
base of the old aristocracy and the recently emerging petite bourgeoisie caved under the predatory hands of the new political elites. By virtue of its control of the basic economic sectors, the new ruling class appropriated and dispensed the surplus extracted from the working population when and at process it deemed necessary (Kebbede, 1992). The bloody phase of the revolution was accompanied by the onset of perpetual brain drain. According to Getahun (2006), most of the 5000 individuals who were residing in the United States on temporary basis at the time of the revolution failed to return home because of political upheavals and uncertainty in Ethiopia.

d. Summary of narratives

If there is one defining characteristics that could differentiate the Malay political elites of Malaysia from the black political elites of Zimbabwe, it is the amount of productive human capital they held at independence compared to the group with economic influence. Owing to the commitment the political elites showed toward retaining investment in the formal sector, Malaysia maintained stable property rights whereas Zimbabwe ended up with a predatory state. Moreover, in Zimbabwe’s case, there was viable opportunity for physical and human capital to flee the country, further eroding the incentive of the political elites to commit to stable property rights. On the contrary, in Malaysia, even if the most recent first-generation Chinese settlers had sought to return to China when the 1969 riots threatened stability, they would have been daunted by the alternative of a Maoist China.

The bitter way in which independence was gained in Zimbabwe could be considered as the immediate culprit for the souring of the relationship between the political and economic elites at a later stage. But, backing up one step farther in the strategic considerations of the elites, it becomes clear that the white elites fought hard against the prospect of black majority rule to stave off extreme redistribution. They had anticipated that the new political elite would tend to predate since latter had little sunk capital in the formal sector including productive human capital.

Unlike the above narrative, the reason that Ethiopia ended up with a predatory state is different from an imbalance between the human capital shares of the new political elites and the old economic elites around the time of the revolution. As a matter of fact, the country’s education system was relatively egalitarian in the feudalist times. Rather, there was a demonstrable imbalance in the human capital distribution within the emerging political elites themselves. That difference was compounded by the disparity in the organizational capacity of the high-human capital political elites
(i.e. parties led by young intellectuals) and the low-human capital political elites (i.e. the military). Having been able to forge a cohesive coalition, the low-human capital group took power; leading Ethiopia to the same path Zimbabwe took two decades later.

The formal model presented in the next section provides for the mechanism in which the distribution of human capital among the elites could lead to different outcomes in property rights institutions such as the ones in Malaysia and Zimbabwe. It also ties the effects of exit options for physical and human capital to the overall influence of the distribution of human capital. Since the basic distinction between political and economic elites fails to explain the historical experience in Ethiopia, an extension of the baseline model will be presented to accommodate human capital imbalances among the political elites themselves.

III. The baseline model

a. Preliminaries

I formulate a simple, static, extensive form game played between the political and economic elites with fully transferable utility among the respective domain of each group. The citizens (or the working class) are left out of the game because the overall framework focuses on intra-elite rule of law. The political elites constitute a proportion \( \alpha \) of the elite population. The economic elites are assumed to be more populous than the political elites, i.e. \( \alpha < 1/2 \). The economy is a two-factor production economy. There are \( K \) units of physical capital in the economy owned by the economic elites. I assume that there is no direct cost of capital for the economic elites other than the opportunity cost of investing in one sector instead of the other. There are \( H \) units of human capital shared among both political and economic elites according to \( \delta \) and \( 1 - \delta \) proportions, respectively.

There are two sectors in the economy. One is the formal sector where physical capital is combined with human capital according to the following constant returns to scale (CRS) production function,

\[
Y = F(K, H),
\]

which translates into the following function of output per unit of human capital;

\[
y = f(k),
\]

where \( k \) is the physical capital to human capital ratio.
$F''_{kh} > 0$, implying physical capital and human capital are complementary.

The wage rate per unit of human capital in the formal sector is $w$. After paying for the cost of human capital, the economic elites retain the residual production as their return. This particular characteristic, as well as the “no cost of capital” assumption laid out above, emanates from the very nature of an elitist society which is normally associated with the prevalence of imperfect capital markets and lack of distinction between ‘ownership’ and ‘control’. The investment of the economic elites in the formal sector is exposed to predation by the political elites. Suppose the political elite can potentially predate at a rate $\hat{\tau}$, which is a function of their human capital. Therefore, the political elites face a dichotomous choice between refraining from predation and predating at a fixed rate determined by the level of their human capital.

\[
\hat{\tau} \in \{0, \tau(H)\} \equiv \{0, \tau(\delta H)\} = \{0, \tau_0\} \quad \tau_0 > 0, \tau' > 0
\]

The first equivalency is underlain by the fact that predation can be committed only by the political elites while the second equivalency follows from the assumption that there is a fixed stock of human capital in the economy. There is positive predation even at zero human capital, and predation is increasing in human capital. In the baseline model, the use of human capital is assumed to be ‘non-rival’. This means the political elites will be employing their human capital productively in the market at the same time as they are using it to enhance their predation potential.

The second sector in the economy is the informal sector where physical capital is employed separately from human capital. In the informal sector aggregate physical capital returns $\chi_k$ whereas a unit of human capital earns $\hat{w}$. The investment in the informal sector is safe from the potential predation of the political elites. Physical capital cannot be divided between the two sectors. The size of resource rent in the economy is denoted by $R$. Resource rent is always captured by the group with political power.

The timing of events within the stage game is as follows:
• The political elites decide whether to promise property rights or to maintain the status-quo. In promising property rights, the political elites have the options of loosely instituting it (denoted by NP) or irreversibly securing it by sharing political power with the economic elites (denoted by D). The status-quo is denoted by N.

• The economic elites decide to invest either in the formal sector or in the informal sector. If political franchise has been extended, the stage game ends here. But if political franchise has not been extended, the stage game continues to the next phase.

• The political elites decide to predate or not to predate

The outline of the game is given in the game tree in Appendix 1.

It should be noted at the outset that the objective of the political elites in this game is maximizing the total payoff that they could garner in terms of market returns on their human capital, spoils from potential predation and natural resource rents. By virtue of their political power, the political elites move first and select the institutions that govern their relationship with the economic elites. The choice of those institutions is essentially driven by the political elites’ interest to maximize their total payoff. Based on this setup, their default strategy is to maintain the status-quo of no property rights and no political franchise. In this case, if the economic elites decide to invest in the formal sector and the political elites predate, the payoff to the two groups will be as follows,

\[
V^{PE}(N, I = 1, \hat{\xi} = \tau_s) = \tau_s f(k)H + \delta wH + R
\]

\[
V^{EE}(N, I = 1, \hat{\xi} = \tau_s) = f(k)H - \delta wH - \tau_s f(k)
\]

(1)

In the presence of formal sector investment, the decision not to predate will be followed by the following set of payoffs,

\[
V^{PE}(N, I = 1, \hat{\xi} = 0) = \delta wH + R
\]

\[
V^{EE}(N, I = 1, \hat{\xi} = 0) = f(k)H - \delta wH
\]

(2) (3)

If the economic elites decide to avoid the formal sector and invest their physical capital in the informal sector, owing to complementarity, human capital also follows and ends up getting
employed in the informal sector. This will result in the following payoffs,

\[
V^{PE}(N, I = 0) = \delta \hat{w}H + R
\]  
\[
V^{EE}(N, I = 0) = \chi_k + (1-\delta)\hat{w}H
\]

The choice of partial property rights within non-democracy

The second option, next to maintaining the status-quo, faced by the political elites is instituting partial property rights that may be credible enough to induce investment in the formal sector. What I mean by partially institutionalized property rights is the installation of institutional structures that will make predation difficult, but not impossible, for the political elites. In the current model, I represent this feature by the introduction of a monitoring cost of predation, \( C \), which is assumed to have a dichotomous distribution of high and low. The monitoring cost is assumed to have two components. One is deterministic and a function of the human capital share of the economic elites, while the other is stochastic and determined by random disturbances happening after investment is made.

\[
C = C(H, \nu) \equiv C((1-\delta)H, \nu) \equiv C_{(1-\delta)H} \in \{C^L, C^H\},
\]

where \( \nu \) represents the random factor, and the superscripts \( L \) and \( H \) represent low and high values of the monitoring cost, respectively. Even though the actual value of the monitoring cost is revealed after investment has been made, both the political and economic elites have common knowledge of the probability distribution of the cost beforehand. Because the actual value of the cost is known by the time when the predation decision is made, the political elites will predate only if the monitoring cost is low. If the economic elites decide to invest in the formal sector and the political elites predate, the payoff to the latter will be as follow,

\[
V^{PE}(NP, I = 1, \hat{r}(p) = \tau_\delta) = [\tau_\delta f(k)H - C^L] + \delta wH + R
\]

All the remaining payoffs resulting from partial institutionalization are the same as in equations (1) - (5) because the partial institutionalization of property rights affects actual payoffs only through the

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5 This characteristic can be drawn from a Leontief-type production function in the formal sector with perfect complementarity.

6 Although the monitoring cost is faced by the political elites, it essentially depends on how organized the economic elites are to get property rights enforced or hide their outputs effectively. This is supposed to depend on how well educated the economic elites are.
realization of the cost of monitoring. The game tree in Appendix 1 summarizes the strategies and payoffs of the above described game.

The choice of intra-elite democracy within a dominant coalition

Partial democratization comes as the last option to induce investment in the formal sector. If the political elites decide to extend political franchise to the economic elites, their pay-off will solely depend on whether the economic elites find it profitable to invest in the formal sector given the property rights guaranteed by partial democratization\(^7\). Moreover, a political process will be applied to determine the allocation of resource rents. The efficiency of the political process is parameterized by \(\theta\). Accordingly, after democratization and in the case of formal sector investment by the economic elites, the political elites receive the following pay-off,

\[
V^{PE}(D, I = 1) = \delta wH + aR^\theta
\]

The corresponding pay-off to the economic elites will be,

\[
V^{EE}(D, I = 1) = f(k)H - \delta wH + (1 - \alpha)R^\theta
\]

If the economic elites decide to invest in the informal sector, physical capital will pay back the lump sum informal sector rate of return. Hence, the returns to the two elite groups will be,

\[
V^{PE}(D, I = 0) = \delta \hat{w}H + aR^\theta, \quad \text{and}
\]

\[
V^{EE}(D, I = 0) = \chi_k + (1 - \delta)\hat{w}H + (1 - \alpha)R^\theta
\]

In formally summarizing the above game, the set of actions taken by the political elites is denoted by \(\sigma^{PE} = \{\phi, \varphi, \tau(.)\}\). The political elites decide whether to extend political franchise \(\phi \in \{0, 1\}\), where \(\phi = 1\) indicates partial democracy has been created. The political elites also determine jointly with the decision to democratize whether to promise property rights to the economic elites \(\varphi \in \{0, 1\}\), where \(\varphi = 1\) represents that property rights have been promised. Toward the end of

\(^7\)Since the economic elites are assumed to be more populous, the possibility of redistribution under democracy driven by majority interest is ruled out.
the stage game, the political elite decide whether to predate on the investment of the economic elites. This decision depends on whether partial democracy is not created, whether property right is promised and the cost of overriding the partial institutions born out of the promise is low enough, $C \in \{C^L, C^H\}$, and whether the economic elites have actually invested in the formal sector, $I \in \{0,1\}$. Therefore, the predation decision by the political elite is represented as, $\hat{\tau} : \{0,1\} \times \{0,1\} \times \{0,1\} \times \{C^L, C^H\} \rightarrow \{0, \tau_d\}$. The set of actions taken by the economic elites is denoted by $\sigma^{EE} = \{I(.)\} \in \{0,1\}$. The investment decision is taken after observing the regime choice by the political elites, $\phi, \varphi$ and the probability distribution of the cost of overriding the partially instituted property rights, $p(C^H) \in [0,1]$. Hence, $I : \{0,1\} \times \{0,1\} \times [0,1] \rightarrow \{0,1\}$

b. Equilibrium analysis

The solution concept used to solve the present game is sub-game prefect equilibrium. The first thing that the political elites consider in making their decision over institutional choice is their preference for either of the two sectors. Since all their economic assets are held in the form of human capital, their preference will be a function of the inter-sectoral differentials in returns to human capital plus any spoils of potential predation in the formal sector. They strictly prefer investment to happen in the formal sector if their own human capital brings premium returns in that particular sector,

$$\delta(w - \tilde{w}) \geq 0$$

(6)

If the above condition fails to hold the political elites will be interested in keeping their skills in the formal sector only as long as their predation makes up for the loss in human capital returns. That is,

$$|\delta(w - \tilde{w})| \leq |\tau_d f(k)|$$

(7)

Even when they have strict preference for the formal sector, the best strategy for the political elites would be not to extend any political franchise, not to promise property rights and to predate. However, the economic elites always reserve their option to exit the formal sector. Therefore, the above strategy profile materializes for the political elites only if the exit constraint does not hold. The exit constraint is defined by the preference of the economic elites for channeling their
investment to the informal sector whenever they expect predation to happen. The exit constraint is binding if \( V^{EE}(N, I = 0) > V^{EE}(N, I = 1, \hat{\tau} = \tau_\delta) \), or

\[
\delta(w - \hat{w}) > [(1 - \tau_\delta) f(k) - \hat{w}] - \frac{\chi_k}{H}
\]  

(8)

The inequality in (8) shows that as far as the economic elites do not get sufficient share of the formal sector premium on returns to human capital, they will readily exit the formal sector and invest in the alternative informal sector. From this point forward, I use the political elites’ share of the formal sector premium on returns to human capital (= \( \delta(w - \hat{w}) \)) as the critical threshold variable determining the existence of different equilibrium regimes.

In the presence of a threat by the economic elites to abandon the formal sector in anticipation of predation, the question remains how will the political elites react to the prospect of exit? Because the political elites move last after investment is made by the economic elites, as far as a one shot game is concerned, they will always predate. Therefore, in a one shot game, no investment will occur in the formal sector as long as the constraint in (8) holds and there is no formal mechanism to ‘tie the hands of the political elites’ form predating. This is bound to happened regardless of how much the political elites themselves want the investment to occur for their human capital advantage. This is a variant of the classical ‘commitment problem’.

But there are cases where even with no scare of predation, the economic elites always prefer to invest in the informal sector for the pure reason of higher returns in that particular sector (i.e. \( V^{EE}(N, I = 0) > V^{EE}(N, I = 1, \tau = 0) \)). This situation can be epitomized by an extremely low share of the formal sector premium on human capital accruing to the economic elites,

\[
\delta(w - \hat{w}) > [f(k) - \hat{w}] - \frac{\chi_k}{H}
\]  

(9)

It is in an effort to solve their commitment problem and only if (9) does not hold that the political elites come up with partially institutionalized promises that essentially serve as a commitment device or to ‘tie their own hands’. I have already described in the previous subsection that this aspect is represented by a cost of monitoring. This means the political elites make predation costly for
themselves *ex-ante*. Two of the most common examples of such strategy could be facilitating for strong commercial councils or establishing anti-corruption commissions. Another example which is rather unconventional but conspicuously straightforward in preventing predation is the Chinese reform measure that allows business people to hold anonymous bank account (Qian, 2003).

A crucial aspect of the formalized ‘promises’ against predation is that they are only partially institutionalized. In other words, \( C \) can be revealed to have taken high or low values depending on contemporaneous factors such as international market conditions or the collective action of the economic elites\(^8\). Both groups have common knowledge of the following probability distribution;

\[
\tau_{\theta} f(k) - C_{H,\omega} \begin{cases} 
\leq 0 \text{ or } C_{H,\omega} = C^H \text{ (with } p) \\
> 0 \text{ or } C_{H,\omega} = C^L \text{ (with } 1-p) 
\end{cases}
\]  

(10)

The stochastic distribution in (10) signifies that even in the presence of partially institutionalized property rights the political elites will predate in \( 1-p \) of the times. Accordingly, the partial institutionalization of property rights by way of introducing a monitoring cost of predation can stop exit if the economic elites find investing in the formal sector, after incorporating their prior knowledge of the distribution of \( C \), at least as profitable as the informal sector (i.e. \( p(V_{EE}(NP, I = 1, \tau(p) = 0)) + (1-p)(V_{EE}(NP, I = 1, \tau(p) = \tau_{\theta})) \geq V_{EE}(N, I = 0) \)). This condition is captured by the following inequality put in terms of the political elites’ share of the formal sector premium on human capital,

\[
\delta(w - \hat{w}) \leq [(1 - (1-p)\tau_{\theta}) f(k) - \hat{w}] - \frac{\bar{X}_k}{H}
\]

(11)

**Proposition 1**: The political elites will promise to partially institutionalize property rights if they have a strict preference for the formal sector, if the exit constraint is binding, and if the condition in

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\(^8\) Most of the time, partially institutionalized regimes renege on their promises to respect property rights when they face pressure from their cliental network for redistribution. The cliental network on which the political elites depend to maintain their power could be thought of as consisting of the working class that is not formally incorporated in the model. The pressure from the working class, caused for instance by some exogenous shift in relative prices, could reduce the monitoring cost of predation by simply increasing the number of eyes watching over the output of the economic elites.
(11) holds. Whether predation happens or not will be determined by the ex-post realization of the monitoring cost of predation.

In Malaysia, the loose grand coalition created between Malay and ethnic-Chinese politicians immediately after independence was intended as a commitment device that would create a cost of monitoring. However, the tension that had kept building among the Malays themselves with the rising inequality reduced the relative value of the monitoring cost by increasing the potential cost the political elites might have to incur if they had not acted to redistribute. This caused a momentary, albeit mild, break down of the partially institutionalized property rights after the 1969 riots, driving Chinese capital away from manufacturing. However, the enforcement of property rights was restored after growth picked up in the 1980s.

It is only when the concession to partially institutionalize property right falls short of stopping exit from the formal sector that the political elites will be forced to consider the option of changing political institutions as a means to guarantee desirable economic institutions. So far we have maintained that whenever (6) is true, implying there is a formal sector premium on human capital, the political elites will have incentive to induce investment in the formal sector. But when they have to extend democratic franchise to the economic elites, the fundamental change in political institutions alters the power structure and therefore the structure of their payoffs. To begin with, they no longer keep the resource rent for themselves. As long as political franchise is extended, the rent should be shared among the new coalition of ruling elites consisting of the political and economic elites. On top of that, because the economic elites, with their own objective function, will now take part in deciding the allocation of the resource rent to various uses, there will be a political process with an efficiency parameter $0 < \theta < 1$. Therefore in order to concede political power, the political elites should prefer the potentially lower returns of democratization, $V^{PE}(D, I = 1)$, to the default option of exit under non-democracy, $V^{PE}(N, I = 0)$. This means, in addition to (6), the following condition must hold in order for the political elite to establish intra-elite democracy,

$$\hat{\delta}(w - \hat{w}) \geq \frac{R - \alpha R^\theta}{H}$$

(12)
**Proposition 2:** The political elites will extend partial democracy to the economic elites and irreversibly secure property rights if they have strict preference for the formal sector, if both conditions in (9) and (11) fail to hold and the condition in (12) is fulfilled.

In determining whether the strategic actions of the political elites in a given country are defined by proposition 1 or proposition 2, the interpretation of the random factor that influences the probability distribution of the monitoring cost is essential. If the probability in which the monitoring cost will be high is positively correlated with economic growth, for a certain range of human capital distribution between the political and economic elites, high-growing countries might remain in a partial property rights trap. In a way, the high growth periods of the 1980s and 1990s could have contributed to the semi-authoritarian orientation of Malaysia’s political elites by ensuring just-enough protection to the economic elites in the form of partially institutionalized property rights.
The above pieces of the analysis of the game, altogether, lead to a single equilibrium defined by different configurations of parameters. Corollary 1 and Figure 1 below summarize the characteristics of the ensuing equilibrium.

Corollary 1: The above extensive form game has a sub game perfect equilibrium such that the following outcomes are possible depending on the specific configuration of different parameters:

- **Predation with no property rights institutions**: if the exit constraint is not binding and the political elites can gain net benefit out predation (i.e. (7) holds), the economic elites will always invest in the formal sector and the political elites always predate at the fixed rate $\tau$.

- **Formal sector exit**: if the informal sector is strictly more profitable for the economic elites (i.e. (9) holds) or if the informal sector offers strictly higher human capital returns to the political elites (i.e. (7) does not hold), or if the formal sector return to the economic elites is not high enough and the resource rent is too tempting to share (i.e. both (11) and (12) are not fulfilled), the economic elites channel their investment to the informal sector and all the human capital in the economy will be employed in the informal sector.

- **Predation under partial property rights**: if the political elites have strict preference for the formal sector (i.e. (6) holds) and the economic elites can credibly threaten to exit that particular sector (i.e. (8) holds), and if the cost of predation turns out to be low, the partially institutionalized promises to respect property rights will induce investment in the formal sector but the political elites predate.

- **Enforcement of partial property rights**: if the political elites have strict preference for the formal sector (i.e. (6) holds) and the economic elites can credibly threaten to exit that particular sector (i.e. (8) holds), and if the cost of predation turns out to be high, the partially institutionalized promises to respect property rights will induce investment in the formal sector and property rights will be enforced.

- **Partial (intra-elite) democracy**: whenever the promise of partial property rights is not credible enough to keep physical capital in the formal sector and the resource rent is low enough to be shared with the economic elites, the political elites institute intra-elite democracy and irreversibly secure property rights.
c. Discussion of results

The comparative statics of the above model are fairly straightforward and can be deduced from simple inspection of the parameter configurations.

As summarized in corollary 1 and illustrated in Figure 1, whenever the potential market gain from the formalization of the economy that accrues to the political elites in the form of human capital returns is lower than the potential wealth formalization adds net of predation, there will be no property rights institutions in equilibrium. As the political elites' share of the gain on human capital returns increases, they will be ready to make several concessions to the extent of sharing political power as long as the inefficiency of the political process and the amount of resource rents are low enough. Nevertheless, the concessions of institutional reform will succeed in encouraging investment in the formal sector only so much as the share of the human capital premium of the political elites is not high enough to wipe out all the productivity gain due to formalization.

The political elites’ share of human capital premium can increase due to three reasons. One is when the share of the total human capital stock possessed by the political elites (δ) rises for a given level of formal sector return differential in human capital (\(w - \tilde{w}\)). The second is when the formal sector return differential in human capital increases for a given share of the stock of human capital owned by the political elite. The third possibility is when both components increase simultaneously.

The rise in \(\delta\), *ceteris paribus*, will improve the likelihood of establishing property rights until the gain in human capital returns by the political elites outstrips the total gain for the economy from formalization. The later happens because, as \(\delta\) increases to the bound, the economic elites literally lose from formalization owing to their extremely low share of human capital. As far as property rights are not irreversibly secured through political franchise, the rise in \(\delta\) also entails a hike in the predation potential of the political elites. This renders the parameter space where partial property rights are feasible to shrink. Better educated political elites (relative to the economic elites) generally favor the protection of property rights; and depending on the marginal effect of human capital on the collective efficiency of predation, they will be forced to institute partial democracy more often.
In all but one case, the change in the share of human capital of the economic elites, $1 - \delta$, affects the equilibrium through its effect on market returns in the same way as the converse impact of $\delta$. But when it comes to determining the potency of partial property rights to induce investment in the formal sector, the human capital share of the economic elites will have additional effect through its indirect impact on the probability of observing high or low monitoring cost. For the same share of human capital possessed by the economic elites, as the marginal effect of human capital on the collective action of the group increases, the parameter space where partial property rights is feasible expands.

The effect of the rise in the formal sector return differential in human capital can stem from either the rise in formal sector returns or a corresponding decline in the informal sector. The first case, the rise in formal sector returns, has a monotonous effect on property rights. When it comes to the second case, the decline in informal sector returns, because that particular variable explicitly enters the payoffs of both elite groups, its effect on property rights becomes ambiguous. First, note that it will always have a positive effect on the formalization of the economy. But as long as (9) does not hold, it will induce formalization without the equivalent concession for property rights protection because it shifts the exit constraint to the right (in Figure 1) more than it increases the political elites’ share of the premium on human capital (because $\delta < 1$). On the contrary, when (9) holds and (12) is also true, a decline in informal sector returns equivalent to $\Delta \hat{w}$ will spur property rights protection accompanied by partial democratization as long as the following condition holds,

$$\delta(w - \hat{w}) - \left(f(k) - \hat{w} - \frac{X}{H}\right) \leq (1 - \delta)\Delta \hat{w}$$

The above condition implies that if the share of the human capital premium accruing to the political elite is high, but not too high, a decline in informal sector returns to human capital can encourage investment in the formal sector and promote intra-elite democratization.

In the present model democratization emerges as a means to the end of credible property rights. But as I have already mentioned, what determines the use of democracy as a commitment device is not

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9 Note that the formal sector wage does not feature explicitly in the payoff of the economic elites as a positive addition because the market valuation of human capital is important to the economic elites so far as the externally employed portion is concerned because they are residual claimants of production.
only the share of human capital of the political elites but also the level of efficiency of the subsequent political process as well as the resource rent. Given a human capital range where democracy is feasible, the critical threshold that determines the establishment of credible property rights is given by changing the inequality in (12) into equality as follows,

\[ \delta(w - \hat{w}) = \frac{R - \alpha R^\theta}{H} \equiv \Psi \]

(13)

Although it is fairly intuitive and I have discussed it above verbally, I now show more formally the corresponding impact of other factors on the emergence of property rights in conjunction with democracy. First higher resource rents raise the threshold in (13) and make democratization more unlikely,

\[ \frac{\partial \Psi}{\partial R} = \frac{1}{HR} (R - R^\theta \theta \alpha > 0 \]

Second, the efficiency of the political process, which increases in \( \theta \), encourages democratization by lowering the threshold level of human capital premium the political elite require to compensate for the risk of losing rents,

\[ \frac{\partial \Psi}{\partial \theta} = -\frac{1}{H} R^\theta \alpha \ln R < 0, \forall R : R > 1 \]

Finally, a more populous political elite (with upper bound of half of the elite population), will make democratization easier because the per capita loss of resource rents will not be prohibitively high,

\[ \frac{\partial \Psi}{\partial \alpha} = -\frac{1}{H} R^\theta < 0 \]

IV. Extension with heterogeneous political elites and minimum winning coalition

It is implicitly assumed in the above model that all the human capital the political elites possess is productive. However, mostly, the type of human capital that is required for political power is the bureaucratic sort. In most non-democratic polities, the political elites are composed of the military as well as a certain fraction of the educated middle class. Under such scenarios, one would expect some friction to happen between those who obtain productive human capital and those who only have
bureaucratic human capital in determining the property rights regime.

In order to extend the baseline model to a case where there is heterogeneity of human capital among the political elites, I keep the total stock of productive human capital and the overall share of the political elites constant and focus on the distribution of productive human capital within the political elites. Suppose the proportion of political elites with a certain share of the stock of productive human capital is \( \gamma \). The political elites are assumed to be part of a predetermined grouping that automatically forms a default political coalition. The only factor differentiating the political elites is the type of human capital they possess. In line with the presence of heterogeneity within the group, we introduce the concept of a minimum winning coalition that is formed out of the bigger, default coalition\(^{10}\). The size of the winning coalition is exogenously given as \( \tilde{\alpha} \in (1/2,1) \) . The winning coalition shares all of the resource rent and spoils from predation in non-democracy. Therefore, the optimal size of a sub-coalition in non-democracy is \( \hat{\alpha} \) (i.e. \( \hat{\alpha} = \tilde{\alpha} \)). The assumption that the type of human capital is the only differentiating factor among the political elites implies that it is also the most viable basis for collective action. Given that logic, the most feasible winning sub-coalition is of the size:

\[
\hat{\alpha} = \gamma \quad \text{if} \quad \gamma \geq \tilde{\alpha}, \text{ or} \\
\hat{\alpha} = (1-\gamma) \quad \text{if} \quad 1-\gamma \geq \tilde{\alpha}, \text{ or} \\
\hat{\alpha} = 1 \quad \text{if} \quad \gamma, 1-\gamma < \tilde{\alpha}.
\]

The above set of threshold conditions implies, if the productively skilled members of the political elites are numerous enough to form a minimum winning coalition, they leave out the bureaucratic segment and form their own coalition. The bureaucratically skilled elites do the same, if they happen to be numerous enough. The political elites will be obliged to join forces and maintain the default coalition if neither group is big enough to form a minimum winning coalition. The decision to establish partial democracy automatically entitles all the political elites to elite rights.

In a major departure from the basic model, the productive segment of the political elites are

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10 In the terminology of Mesquita et al. (2003), the default coalition can be viewed as a “selectorate”. The winning coalition is conceived as a subset of the selectorate, whereas the selectorate is a subset of the overall population. The selectorate are group who have a say on public policy issues but not necessarily part of the ruling regime.
assumed to have the option of colluding with the economic elites and forming an oligarchy in cases where their bureaucratic counterparts could not form a minimum winning coalition. I assume that the bureaucratic elites do not have the same option. Accordingly, if the productive political elites decide to form oligarchy, they share the sum of resource rents and any oligarchic rent (i.e. \( R + Z \)) with the economic elites and there will be no predation.

There are two stages of the overall decision process unified under the same extensive form game. The first stage is the coalition formation stage where the political elites determine the size of the ruling coalition; whereas the second stage is the institution selection stage where the ruling coalition determines the optimal institutional setup in the same way as in the baseline model (Appendix 2 provides the outline of the game tree). Ex-ante, utility is assumed to be transferable within the smallest sub-group, such as the productive or bureaucratic segment. Therefore, when it comes to the decision to forge a coalition, the relevant payoff is tied to the utility of the productive or bureaucratic segment. But once a coalition is formed, further decisions are made with respect to maximizing the utility of the bigger coalition. Below, I will turn to examining each scenario of human capital distribution and coalition structure among the political elites and the resultant equilibrium outcomes. The standard solution concept of sub-game perfection is used to analyze the game.

**Case 1 - concentrated productive human capital** \((1 - \gamma \geq \tilde{a})\)

In this case, the first stage of the game has automatic solution. Since the bureaucratic elites do not need the support of the productive segment to form a minimum winning coalition, they establish their own segment as the ruling coalition. Accordingly, the second stage of the game becomes a special case of the baseline model with no human capital possessed by the political elites (i.e. \( \delta = 0 \)). Since the ruling elites do not have the human capital which complements physical capital in the formal sector, they lack the incentive to forgo their predation potential and resource rent for the

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11 Oligarchy is fundamentally defined on the basis of material wealth. “Oligarchs are actors who command and control massive concentrations of material resources that can be deployed to defend and enhance their personal wealth and exclusive social positions” (Winters, 2011). Since the productive political elites possess human capital that can be readily converted into material wealth and that is essential to complement the financial wealth of the economic elites in the formal sector, they are considered better suited than the bureaucratic elites to collude with the economic elites and form oligarchy.

12 In the spirit of Acemoglu (2008), the oligarchic rents represent the oligopoly or monopoly rents that are created through erecting entry barriers by the incumbent producers.
sake of inducing investment in the formal sector. Therefore, they will always predate. The equilibrium outcome will be predatory non-democracy as far as the formal sector returns on physical capital investment are high enough to leave the economic elites with sufficient compensation after predation. Otherwise, all the investment will go to the informal sector.

**Case 2 - "hung" coalition or moderately distributed productive human capital \((\gamma, 1 - \gamma < \tilde{\alpha})\)**

This is a scenario where neither segment can unilaterally form a winning coalition. However, the productive segment has a clear advantage since they can collude with the economic elites and form oligarchy. Therefore, the first stage of the game is essentially determined by the choice of the productive members of the political elites. In addition to the set of payoffs laid out in the baseline model, the possibility of oligarchy introduces the following payoffs associated to that particular institutional regime and in the case of formal and informal sector investment, respectively:

\[
V_{\gamma}^{PE}(O, I = 1) = \delta wH + \frac{m}{1 - \alpha + \gamma}(R + Z) \\
V_{\gamma}^{PE}(O, I = 0) = \delta \hat{w}H + \frac{m}{1 - \alpha + \gamma}R
\]

Equation (14) features zero oligarchic rents because, for the same reason as the political elite cannot predate in the informal sector, the institution of oligarchy does not bestow them with any authority to favor their coalition partners in that particular sector and create positive rents.

The productive political elites decide whether to maintain the default coalition with the bureaucratic elites or to collude with the economic elites based on their share of the potential equilibrium payoff resulting from the subsequent choice of institutions maximizing the payoff of the emerging coalition. If the productive political elites opt to maintain the default coalition, the rest of the game will proceed exactly as in the baseline model. Therefore the additional insights brought in under this case hinge upon the conditions that determine the choice of coalition.

A simple comparison between equations (3) and (14) implies that Oligarchy will not emerge as an equilibrium outcome in cases where the informal sector is strictly preferred by either the economic or productive political elites. Hence, the default coalition will be maintained. Under relative preference for the formal sector by both sides, there will be a tri-segmented parameter space that features different outcomes based on the relative gain obtained from the formal sector by the
productive political elites as opposed to the economic elites.

Relatively higher formal sector gains accruing to the economic elites, i.e. the exit constraint does not hold: the equilibrium outcome, in this case, will be predatory non-democracy presided by the default coalition as far as the predatory loots are big enough and the political elites are small enough to outweigh the effect of oligarchic rents in the alternative case of oligarchy.

Balanced formal sector gain shared by both elite groups: the interest of the productive political elites to bring investment to the formal sector increases. Therefore, maintaining the default coalition will be a dominated strategy unless partial property rights could become feasible with the combination of a sufficiently probable predation and low enough number of political elites offsetting the benefits from oligarchic rents.

Relatively higher gains accruing to the productive political elites: this is the case where the productive political elites could not induce investment in the formal sector without extending political power to the economic elites, unless they abandon the default coalition and resort to the option of oligarchy. Due to the simple fact that resource rents will be shared among fewer elites (i.e. \(1 - \alpha + \alpha \gamma < 1\)) and because there is additional benefit in terms of oligarchic rents, intra-elite democracy becomes strictly dominated and the productive political elites will choose oligarchy.

But what would be the change in equilibrium results if the bureaucratic political elites are able to negotiate strategy-contingent side-payments to affect the outcome in their favor\(^\text{13}\)? Because oligarchy leaves the bureaucratic segment with zero payoffs, the political elites with bureaucratic human capital will be willing to make side payments to their productive counterparts as far as the transfer offsets the gain of the later from oligarchy and leaves some return to the former. If the side payment arrangement is optimal for the productive political elites, the default coalition will be maintained and the best response strategies will be determined based on the payoffs to the whole coalition exactly like in the baseline model.

In cases where the productive elites would find oligarchy more appealing without the side payments, Jackson and Wilkie (2005) provide insightful analysis of how the outcomes of a game could be affected when players are able to make binding offers of strategy-contingent side payments before the game is played.
let the second best alternative, determined within the default coalition, be denoted by $V_{\gamma}^{PE}(\sigma(.))$. In order to prevent oligarchy from emerging as an equilibrium outcome, the bureaucratic segment make a side payment of $S = \max \{0, V_{\gamma}^{PE}(O, I = 1) - V_{\gamma}^{PE}(\sigma(.))\}$, provided that $V_{\gamma}^{PE}(O, I = 0) - V_{\gamma}^{PE}(\sigma(.)) \leq V_{1-\gamma}^{PE}(\sigma(.)) - \varepsilon$ where $\varepsilon$ is an arbitrary small number. The obvious difference that allowing for side-payments brings about is, of course, higher probability of the default coalition being maintained. However, the more substantive effect in terms of outcomes happens to be making intra-elite democracy feasible as far as the side payment can be big enough to compensate for the loss in resource and oligarchic rents.

**Case 3 - fairly distributed productive human capital ($\gamma \geq \widehat{\alpha}$)**

In this case, productive human capital is fairly distributed and the productive political elites constitute a winning coalition. The decision at both stages of the game is taken by the productive political elites. The decision process resembles the one in the case of the hung coalition above, except the fact that the payoffs that are relevant for making the choices of coalition and institutions (at both stages) are those of the productive political elites. Therefore, most of the outcomes are similar to the ones in the previous case across the respective parameter configurations. The major difference in the current case is that partial property rights are more likely than in the case of the hung coalition because resource rents and spoils from probable predation are shared among the smaller productive segment instead of the entire political elites (i.e. $\alpha \gamma < \gamma$). But intra-elite democracy does not emerge in this scenario because, except in the extreme case of $\gamma = 1, Z = 0$ and $\theta = 1$, oligarchy always pays higher than intra-elite democracy and at the same time ensures formal sector investment.

Summing up, the disadvantage of obtaining a small class of productively skilled political elites is obvious because neither property rights nor democracy are possible in this setting, regardless of other parameters. That is the situation Ethiopia found itself in after the 1974 revolution. The military outnumbered the still-emerging young intellectual class. Moreover, the relatively high organizational efficiency of the military lowered the threshold requirement for establishing a minimum winning coalition. As the proportion of the productively skilled political elites increases, the possibility of oligarchy arises. The option of colluding with the economic elites makes it difficult
to attain intra-elite democracy. In the case of a hung coalition, this challenge could be bypassed if side-payments are possible. That is not an option when productive human capital is fairly distributed across the board. Ironically, a majority of productively skilled political elites could be detrimental to intra-elite democracy. Assuming that intra-elite democracy is desirable for intrinsic and instrumental reasons other than serving as a commitment device for property rights protection and oligarchy is distortionary at least in the long-run, having an egalitarian distribution of productive human capital among the political elites could be less than optimal for society.

V. Conclusion

History has proven repeatedly that the transition to improved political and economic institutions should begin with the consolidation of rule of law among the elites themselves. This paper has traced a strategic link between the distribution of human capital among the elites and the likelihood of establishing stable property rights. The analysis has also shed light on the potential effect of educated migration on the commitment to respect property rights. In the presence of institutional mechanisms to ensure a sufficiently probable protection of property rights, it has been show that the economic elites might settle for an intermediate arrangement short of political democracy.

The distribution of productive human capital between the political and economic elite groups is demonstrated to have a crucial effect in determining the property rights regime through the corresponding need to secure investment in physical capital. A disproportionate share of human capital possessed by either of the elite groups could drive out investment to the informal sector or keep the society in a predatory equilibrium. A sufficiently high share of productive human capital possessed by the political elites could induce intra-elite democracy in the interest of ruling out ex-post predation. In cases where the informal sector is more enticing for human capital, there is a high probability that all physical capital exits the formal sector because the political elites do not find any incentive to commit to not predate. In the presence of oligarchy and heterogeneous distribution of productive human capital among the political elites, the fragmentation between the political elites opens the door to strategic coalitions that essentially reduce the chance of intra-elite democracy. Depending on the economic distortions that oligarchy might entail, the arrangement of side-payments that help maintain the default political coalition could make society better off.
The existence of educated aristocracy in Malaysia who were ready to take power after independence and claim their share in the capitalist system of production created confidence in the stability of property rights. Although the Malay elites have always reserved political power for themselves, they have committed to observe the protection of property rights through a partially institutionalized system. Malaysia might not be claimed to have instituted intra-elite democracy; but it has been farther ahead in creating the institutional arrangement to stave off outright predation. On the contrary, the demise of the Zimbabwean economy and the obliteration of property right institutions in that country could be partly attributed to the historical inequality between the human capital endowments of the white minority and the black majority. This existential problem has been compounded by the readily-available exit options presented to the educated whites by South Africa and Britain. The erosion of confidence that had began sometime before independence culminated in the form of an all-out exit since the beginning of the 2000s. The comparative experience of Malaysia and Zimbabwe stands in stark contrast against the favorable view of settler colonialism as a source of better institutions adhered by Acemoglu et al. (2001).

Unlike Zimbabwe, Ethiopia had built a fairly egalitarian education system during the imperial period. The 1974 revolution seemed, although for a brief respite, to be presided by young intellectuals who could have emerged as the new political elites. However, the fact that the military had been the only strong and structured establishment in the imperial era gave the uneducated rank-and-file officers to pull off a minimum winning coalition and sidetrack the educated elite. Although it had had a fair chance of taking the path of Malaysia, due to the polarized human capital distribution of the political elites, Ethiopia ended up being more like Zimbabwe for the seventeen years following its revolution.

Apart from the narratives presented in this paper, the theoretical model might be used to interpret some of the broader political economy patterns relevant for several countries. Three such interpretations are outlined here. One: in countries where the formal sector features some sort of protectionist or natural resource rent that would make the sector attractive to investors regardless of how little human capital the political elites (i.e. policy makers) posses, predation tend to coexist with investment. Two: if the expected probability of high monitoring cost of predation is positively correlated with expansion of economic activities, high growth developing countries could be trapped in non-democracy equilibrium. Three: in countries where the political elites posses productive
human capital that could be relevant in corporate boardrooms, cronyism becomes a real threat to intra-elite democracy.

The general literature on property rights institutions clearly underlines the role of stable property rights for promoting investment in physical and human capital. Nevertheless, the present paper started off with the simplifying assumption that the stock and distribution of human capital is exogenous. In fact, since the domain of human capital is confined to the elite and because the elite are supposed to accumulate human capital by virtue of their social position, the effect of the assumption could be limited. But there is a viable potential for future research in endogenizing human capital. The possible extension of the game into an infinite horizon dynamic game could result in a lot of interesting features and also integrate the stochastic nature of partially institutionalized property rights well into the body of the game.
Appendix 1: A game of predation and intra-elite democratization between the political and economic elites

Figure 2: A game of predation and intra-elite democratization
Appendix 2: Outline of a game tree of coalition formation and institution selection


Figure 3: A game of coalition formation and institution selection
References


