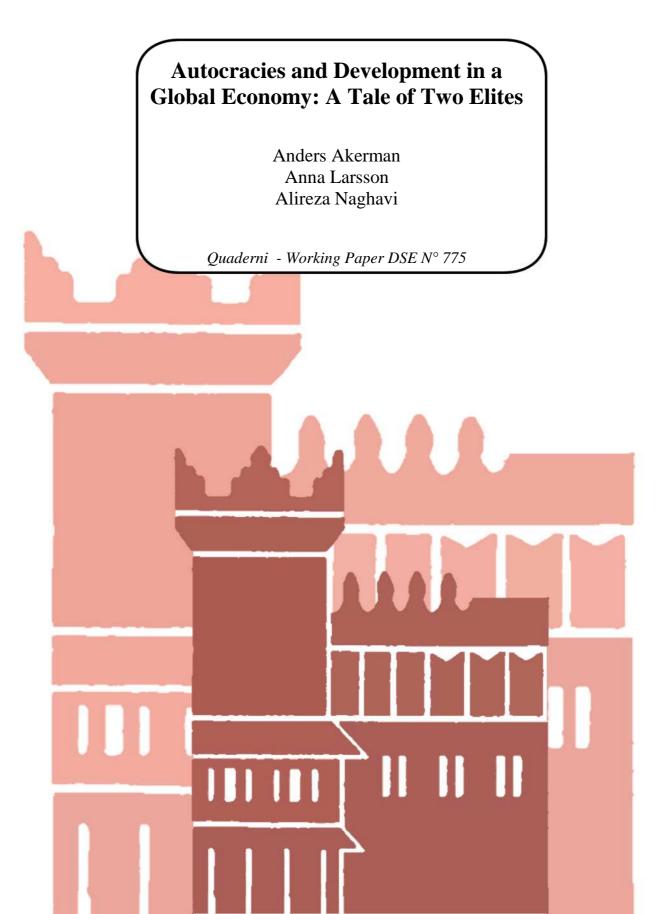# Alma Mater Studiorum - Università di Bologna
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Autocracies and Development in a Global Economy: A Tale of Two Elites

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Abstract

This paper studies how comparative advantage and the political elites' endowments shape long-run performance in an economy with imperfect political institutions. In a capital-scarce economy, an autocrat catering to the needs of landowners favors openness to trade at an early stage of development, while an autocrat complying with the preferences of capitalists chooses to shelter the economy from trade. The resulting trade regime interacts with economic institutions, and with policies on capital mobility, to govern capital accumulation. A landed autocrat neglects to improve institutions and blocks foreign capital to maximise extractable rents, leading the economy towards stagnation. By contrast, a capitalist autocrat strengthens the institutional quality, which over time shifts the comparative advantage towards manufacturing and renders the economy attractive to foreign investors. Trade and capital market liberalisation are thus complementary policies that provide an environment of growth and development in the capital autocracy.

JEL-Classification: F10; F20; P40; P50; O10; O24.

Keywords: political institutions; development; economic institutions; trade; comparative advantage; capital mobility; capital accumulation.

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1 Introduction

Data from the post World-War II era of globalisation reveal a striking variation in the growth performance of autocratic countries: dictatorships tend to either excel or fall behind. Openness to trade appears to have been conducive to growth in some autocracies but not in others. At the lower end of the spectrum of autocracies are some of the world's poorest performing economies and at the upper end are the miraculous East Asian Tiger Economies who have doubled their income in a decade or less since the beginning of the 1960s. How can we explain these differences in performance?

In this paper we highlight an empirical feature that has been somewhat overlooked in the existing literature: the fact that the endowments of the political elites, and therefore the preferences of the ruling autocrats, differ across countries. We model an economy with imperfect political institutions and study how the trade regime interacts with policies affecting the institutional quality and international capital mobility.[1] We argue that the interplay between these elements is crucial for growth and development.

A growing strand of literature emphasises how political and economic institutions shape long-run performance and helps us understand some of the reasons autocracies differ, see for instance Acemoglu, Johnson and Robinson (2005a) and Acemoglu and Robinson (2006) for overviews.[2] The relationship between openness and institutions has become subject to intensive research only in recent years and produced mixed empirical results. Free trade can either lead to stronger institutions as in Ades and Di Tella (1999), Acemoglu, Johnson and Robinson (2005b), Rodrik, Subramanian and Trebbi (2004) and Rigobon and Rodrik (2005), or to institutional deterioration as in Treisman (2003) and Tavares (2007). As argued by Stefanadis (2010), the empirical literature is ahead of theory in this area and more theoretical work is needed to deepen our understanding of the interaction between globalisation and institutional quality.

While proponents of trade argue that economic integration is conducive to stronger institutions, a series of recent papers point out that this is not always the case. Johnson, Ostry, and Subramanian (2007) suggest that if returns from trade fall into the hands of a small elite, the concentration of power that may follow can worsen institutions. Bardhan (2010) confirms that the trade expansion

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[1] The notion that trade in goods and capital movements interact with each other, and can be either complements or substitutes, is the subject of a large literature comprising Markusen (1983), Jones and Neary (1984), Markusen and Svensson (1985), Wong (1986), Jones (1989), Neary (1995) and Antràs and Caballero (2009).

[2] Within this literature, examples of imperfect political institutions include expropriation (Segura-Cayuela, 2006; Stefandis, 2010), inequality in land ownership (Galor, Moav and Vollrath, 2009; Falkinger and Grossman, 2011) and rent-seeking (Levchenko, 2007; Cervellati, Naghavi and Toubal, 2011).

in natural resource intensive products has strengthened the political power of large exporters who subsequently have raised barriers to entry and promoted oligarchic institutions. Levchenko (2012) adds that trade improves the institutional quality if it reduces the rents from dysfunctional institutions, but brings institutional deterioration in the opposite case. Several recent theoretical papers have demonstrated the negative effect of autocracies opening to trade on domestic economic institutions such as investment in schooling (Falkinger and Grossman, 2005), the investment climate (Do and Levchenko, 2009), property rights (Stefanadis, 2010), and technology adoption (Cervellati, Naghavi and Toubal, 2011). We contribute to this literature by arguing that the effects of trade on institutional quality are contingent on the nature of the political elites.

Consistent with the aforementioned literature, we show that if the political elites are landowners in a capital-scarce economy, openness to trade creates an environment of institutional neglect and stagnation. However, if the political elites instead are capitalists, the autocrat manages to shift the comparative advantage by improving the institutional quality, which eventually provides an incentive to open up to trade and liberalise capital markets. We also add to the existing literature by stressing that the complementarity of policies on trade and capital market liberalisation is crucial for the success of autocratic economies and show that such complementarities arise in the capitalist autocracy.

We build a specific-factor trade model where the nature of the political elites and comparative advantage determine the long-term development of an economy with imperfect political institutions.[3] The economy consists of an agricultural sector and a manufacturing sector and is characterised by an initial comparative disadvantage in manufacturing. The political elites may hold either land or capital and we shall henceforth refer to these economies as land and capital autocracies, respectively. The policy instruments of the autocrat are: (i) openness to trade; (ii) the strength of economic institutions and (iii) the liberalisation of capital markets.

A key finding is that the two different types of autocracies react differently to globalisation. A landed autocrat prefers to open up to trade at an early stage of development, which creates an environment where institutional quality is completely neglected. This prediction is consistent with developments in Argentina after the Perónist populist and protectionist era, where the military government, mainly controlled by the agricultural elites, took power in 1976 and brought the economy back to free trade (Brambilla, Galiani, and Porto, 2010).

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[3] For seminal contributions to the class of specific-factor models see Jones (1971), Samuelson (1971), Mussa (1974) and Neary (1978).

By contrast, a capitalist autocrat initially shelters the economy from global markets while promoting institutional quality. Rodrik (1994) stresses that an important factor behind the outstanding performances of South Korea and Taiwan was indeed that governments managed to raise the returns to private investments, thereby increasing the demand for imported capital goods. In line with this argument, we show that the endowments of the political elites govern whether openness to trade and capital market liberalisation are complementary regimes. This is the case in a capitalist autocracy so that the benefits of allowing for foreign capital inflows are realised only once the economy is open to trade. This result is consistent with actual developments in some of the growth-miracle economies, such as Taiwan and South Korea, where the entrepreneurial elites allowed for large-scale capital inflows only after opening up to trade in the 1970's.[4] In an autocracy where the elites are landowners, no such complementarities exist.

The rest of the paper is organised as follows. Section 2 presents the model. Section 3 discusses the equilibrium under different trade regimes. Section 4 introduces international capital mobility. Section 5 presents the political-economy layer of the model and derives analytical results on optimal regimes and policies. Section 6 presents historical accounts concordant with our results. Section 7 concludes.

2   The Model

Consider a small, potentially open economy. The economy consists of two sectors denoted $j = A, M$ for agriculture and manufacturing. Each sector produces a sector-specific good that is tradable in the world market. There are three groups of households that differ in their initial endowments and supply either land, capital or labour to firms. We assume that each time period, denoted t, is one generation so that households and policy makers have one-period lives. Owners of the factors of production have warm-glow preferences and leave bequests to their offspring.[5]

We vary the assumption on the nature of the political elites and assume that they are either landowners or capitalists. The autocrat caters to the needs of the elites and may thus be either landed or capitalist in nature.[6] The autocrat governs the institutional quality and makes decisions

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[4] Source: *Statistics on Approved Overseas Chinese and Foreign Investment by Area,* the Investment Commission, Ministry of Economic Affairs, Taiwan.

[5] The warm-glow preference structure enables us to characterise the equilibrium in each period. The bequests ensure that there is a dynamic link between periods and that the capital stock is growing over time.

[6] The possibility that autocrats may be heterogeneous and have different objectives is also present in Shen (2007), Paltseva (2008) and Larsson and Parente (2011). However, these papers do not take into account that the endowments of the political elites may be country-specific.

on whether or not to allow for international trade in goods and foreign capital inflows. We first treat institutions as exogenously given and focus on the regime-specific equilibria in Sections 3 and 4. The preferences and optimal choices of the ruling autocrats are then analysed in Section 5.

2.1 Production

The agricultural and manufacturing sectors differ in terms of technology and the factors employed in production. Labour is the only input used in both technologies and is perfectly mobile across the two sectors so that the labour supply is infinitely elastic.

The agricultural sector uses land (X) and labour (L) to produce the agricultural good. Letting Y_A denote the output of the agricultural good:

$$Y_{At} = X_t^\alpha L_{At}^{1-\alpha} \tag{1}$$

where $\alpha \in (0,1)$ and L_{At} denotes the labour employed in the agricultural sector.

The manufacturing sector uses capital (K) and labour to produce the manufacturing good:

$$Y_{Mt} = \pi_t K_t^\alpha L_{Mt}^{1-\alpha} \tag{2}$$

where L_{Mt} refers to the labour employed in the manufacturing sector, and $K_t = A_{Kt}K_{Dt} + K_{Ft}$ is the country's total effective capital stock that consists of domestic and foreign capital, K_{Dt} and K_{Ft} respectively.[7] The parameter A_{Kt} denotes the productivity of domestic capital. In equilibrium, the presence of foreign capital will hinge on domestic returns to capital being sufficiently high, but for now we treat the level of foreign capital as exogenous and return to this issue in Section 4.

Finally, the technology parameter π_t is a broad measure capturing the quality of economic institutions that benefit the manufacturing sector more than the agricultural sector. Following Levchenko (2007), we can specify this as the ability to enforce contracts and therefore the proportion of profits that remain from investment in the institutionally intensive sector. This is also in accordance with empirical evidence from Nunn (2007), who finds that the average relationship specificity of manufacturing sectors is substantially larger than that of agricultural sectors.

2.2 Endowments, Preferences and Income

The population consists of landowners (N_X), capital owners (N_K), and workers (L). The total population at time t is therefore $N_t = L_t + N_{Kt} + N_{Xt}$. We assume a stationary population

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[7] We assume labour intensity, $1-\alpha$, to be the same in both sectors. The assumption is made for simplicity and is of minor importance: sectoral differences in terms of labour's share in production are not related to the dynamics of interest in our model.

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normalised to one, as population growth is of no importance for the dynamics of interest in our setting. Landowners own one unit of land which they rent to firms in the agricultural sector, while capitalists rent their capital to firms in the manufacturing sector.

Owners of the factors of production derive utility from consumption and from leaving bequests and the utility function assumes the following form:

$$U_h(C_t, B_t) = C_t^\mu B_t^{1-\mu}$$

for $h = K, X$ where $C_t = C_{At}^\sigma C_{Mt}^{1-\sigma}$ and the maximisation is subject to constraints that are household-specific.

The elite households leave bequests according to their endowments. Land and capital differ in that land does not depreciate while capital depreciates fully from one generation to another. This means that landowners simply bequeath their land endowments to their children while capitalists convert a share of their income to bequests in terms of an investment good. Bequests are thus a part of the budget restriction of the capitalists but not of the landowners.

Denote the bequests given in terms of capital and land by B_{Kt} and B_{Xt}, respectively. The problem facing the capitalist household is then:

$$\max_{C_{At}, C_{Mt}, B_{Kt}} U(C_{At}, C_{Mt}, B_{Kt}) = \left(C_{At}^\sigma C_{Mt}^{1-\sigma}\right)^\mu B_{Kt}^{1-\mu}$$

subject to

$$P_{At}C_{At} + P_{Mt}C_{Mt} + P_{BKt}B_{Kt} \le I_{Kt}$$

The problem facing the landed household is:

$$\max_{C_{At}, C_{Mt}, B_{Xt}} U(C_{At}, C_{Mt}, B_{Xt}) = \left(C_{At}^\sigma C_{Mt}^{1-\sigma}\right)^\mu B_{Xt}^{1-\mu}$$

subject to

$$
\begin{aligned}
P_{At}C_{At} + P_{Mt}C_{Mt} &\le I_{Xt} \\
B_{Xt} &\le x_t = 1
\end{aligned}
$$

where $x_t \equiv X_t/N_{Xt}$ denotes land holdings per landowner.

Since workers do not own any resources other than time, they leave no bequests but consume their entire income.

The income of a domestic capitalist is:

$$I_{Kt} = r_{Dt}k_t, \tag{3}$$

where r_{Dt} denotes returns to domestic capital and $k_t \equiv K_{Dt}/N_{Kt}$ is the capital endowment of each capitalist. The income of a landowner is:

$$I_{Xt} = r_{Xt}, \tag{4}$$

where r_{Xt} denotes returns to land. Finally, workers' income amounts to their wages:

$$I_{Ljt} = w_{jt}, \tag{5}$$

where $j = A, M$ represents the sector they work in. We treat the manufacturing sector as the numéraire sector and set its price, P_{Mt}, to unity. P_{At} therefore denotes the relative price of agricultural goods in terms of manufacturing goods.

The optimal choices of the capitalist household are:

$$C_{At} = \mu\sigma\frac{I_{Kt}}{P_{At}}, \tag{6}$$

$$C_{Mt} = \mu(1-\sigma)I_{Kt}, \tag{7}$$

$$B_{Kt} = (1-\mu)I_{Kt}. \tag{8}$$

The optimal choices of the landed household are:

$$C_{At} = \sigma\frac{I_{Xt}}{P_{At}}, \tag{9}$$

$$C_{Mt} = (1-\sigma)I_{Kt}, \tag{10}$$

$$B_{Xt} = 1. \tag{11}$$

Consequently, the indirect utility functions of the elite households are:

$$V_{Kt} = \lambda_K\frac{I_{Kt}}{P_{At}^{\mu\sigma}}, \tag{12}$$

$$V_{Xt} = \lambda_X\frac{I_{Xt}}{P_{At}^{\sigma}}, \tag{13}$$

where $\lambda_K \equiv (\mu\sigma)^{\mu\sigma}(\mu(1-\sigma))^{\mu(1-\sigma)}(1-\mu)^{(1-\mu)}$ and $\lambda_X \equiv \sigma^{\sigma}(1-\sigma)^{(1-\sigma)}$.

3 Equilibrium under Different Trade Regimes

This section solves for the equilibrium prices of goods, factor allocations, returns and output levels in the two sectors under different trade regimes. We start by discussing general equilibrium conditions in Section 3.1, and proceed by discussing the equilibria in a closed and an open economy in Sections 3.2 and 3.3, respectively.

3.1 General

In equilibrium, returns to capital, land and labour are given by:

$$r_{Dt} = P_{Mt}\frac{\partial Y_{Mt}}{\partial K_{Dt}}, \tag{14}$$

$$r_{Xt} = P_{At}\frac{\partial Y_{At}}{\partial X_t}, \tag{15}$$

$$w_{jt} = P_{jt}\frac{\partial Y_{jt}}{\partial L_{jt}} \tag{16}$$

Regardless of the trade regime, under full employment and inelastic labour supply, employment in the two sectors adds up to the total labour supply:

$$L_t = L_{At} + L_{Mt}. \tag{17}$$

Due to perfect competition between firms, wages are equal to the marginal product of labour. Moreover, labour can move freely between the two sectors, equalising the wage across sectors:

$$w_t = w_{At} = w_{Mt} = P_{At}\frac{\partial Y_{At}}{\partial L_{At}} = \frac{\partial Y_{Mt}}{\partial L_{Mt}}. \tag{18}$$

3.2 Closed Economy

In autarky, domestic production equals domestic consumption in the agricultural sector. This implies:

$$Y_{At}^C = \frac{\sigma}{P_{At}^C}\left(w_t L_t + r_{Xt} X_t + \mu r_{Dt} K_t\right), \tag{19}$$

where the superscript C now denotes a closed economy.[8] The RHS denotes the expenditure on agriculture by workers, landowners and capitalists, respectively. Recall that capitalists spend a share μ of their income on consumption, of which a share σ is spent on agricultural products.

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[8] We only index the variables that are regime-specific in each period. L_t, X_t and K_{Dt} are history-dependent but given at the start of each period.

The corresponding expression in the manufacturing sector is:

$$Y_{Mt}^C = (1 - \sigma)\left(w_t L_t + r_{Xt} X_t + \mu r_{Dt} K_t\right) + \overbrace{(1 - \mu) r_{Dt} K_t}^{\text{Used for bequests}} \tag{20}$$

where the second term on the RHS is the amount of manufacturing goods used for bequests.

The wage equality between the two sectors in (18), together with (1) and (2), imply:

$$P_{At}^C = \pi_t \left(\frac{L_{At}^C}{L_{Mt}^C} \frac{K_t}{X_t}\right)^\alpha. \tag{21}$$

Not surprisingly, agricultural goods are relatively more expensive if economic institutions are strong, if land is scarce relative to capital and if there is a high share of labour employed in agriculture.

The wage equality condition in (21) and the goods market equilibria in equations (19) and (20) yield the relative labour allocation:

$$\frac{L_{At}^C}{L_{Mt}^C} = \frac{\sigma}{1 - \sigma}\left(1 - \alpha\left(1 - \mu\right)\right). \tag{22}$$

As is standard in the specific factor model, the autarky relative labour allocation in the two sectors is independent of factor endowments. This is because prices adjust in proportion to the share of labour in the two sectors. The term $\sigma/1 - \sigma$ denotes the relative demand for agricultural goods and is positively related to the share of labour in agriculture. A lower α indicates lower marginal returns to capital, and hence less resources to spend on manufacturing goods used for bequests. This lowers the demand for manufacturing and therefore also L_{Mt}^C. Stronger preferences for bequests, captured by $(1 - \mu)$, reflects more expenditure on bequests and therefore a higher demand for manufacturing goods and labour in that sector. If bequests were not to matter so that $\mu = 1$, the allocation of labour would be a function of the relative preferences for agricultural versus manufacturing goods as in the standard model.

Equation (22) also allows us to rewrite the price equation in (21) as

$$P_{At}^C = \pi_t \left(\frac{\sigma}{1 - \sigma}\left(1 - \alpha\left(1 - \mu\right)\right) \frac{K_t}{X_t}\right)^\alpha.$$

The returns to domestic capital and land are, in turn, given by the marginal product of these factors. Using the definition of output, income, and indirect utility from (1), (2), (3), (4), (12), (13), (14), (15), the relative price in (21), and the labour allocation derived from (17) and (22), returns can be summarised in the following Lemma:

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Lemma 1 *Under autarky, the real returns to the domestic factors of production are:*

$$\frac{r_{Dt}}{\left(P_{At}^C\right)^{\mu\sigma}} = \frac{1}{\left(P_{At}^C\right)^{\mu\sigma}}\frac{\partial Y_{Mt}}{\partial K_{Dt}} = \beta\pi_t^{1-\mu\sigma}\frac{A_{Kt}X_t^{\mu\sigma\alpha}L_t^{1-\alpha}}{K_t^{1-(1-\mu\sigma)\alpha}},$$

$$\frac{r_{Xt}}{\left(P_{At}^C\right)^{\sigma}} = \left(P_{At}^C\right)^{1-\sigma}\frac{\partial Y_{At}}{\partial X_t} = \gamma\pi_t^{1-\sigma}\frac{K_t^{\alpha(1-\sigma)}L_t^{1-\alpha}}{X_t^{1-\alpha\sigma}},$$

where $\beta \equiv \frac{\alpha\left(1+\frac{\sigma}{1-\sigma}(1-\alpha(1-\mu))\right)^{\alpha-1}}{\left(\frac{\sigma}{1-\sigma}(1-\alpha(1-\mu))\right)^{\mu\sigma\alpha}}$ *and* $\gamma \equiv \frac{\left(\frac{\sigma}{1-\sigma}(1-\alpha(1-\mu))\right)^{1-\alpha\sigma}}{\left(1+\frac{\sigma}{1-\sigma}(1-\alpha(1-\mu))\right)^{1-\alpha}}.$

The institutional quality captured by the parameter π_t, is important for the returns to both factors of production, but through separate channels. Better economic institutions raise the return to capital by affecting capital's marginal productivity. Land returns are also increasing in institutional quality, but through a decrease in the relative price of manufacturing. Moreover, relative abundance of capital with respect to land increases (decreases) returns to land (capital), while a larger labour stock increases the returns to both factors in their specific sectors.

3.3   Open Economy

In an open economy, the relative price of agricultural goods to manufactures, P_{At}, is taken as exogenous and set equal to the world relative price P_{At}^*. The relative labour allocation across the two sectors is obtained by setting (21) equal to the world relative price:

$$\frac{L_{Mt}^O}{L_{At}^O} = \frac{\pi_t^{\frac{1}{\alpha}}K_t}{P_{At}^{*\frac{1}{\alpha}}X_t} \tag{23}$$

where superscript O denotes an open economy. Under free trade in goods, the allocation of labour between the two sectors is influenced by factor endowments since the prices are fixed and cannot counterbalance them as they do in autarky. The relative allocation of labour in manufacturing is increasing in the quality of economic institutions, a higher relative endowment of capital (either through the accumulation of domestic capital or the entry of foreign capital), and a higher world relative price of manufacturing goods.

Using (1), (2), (3), (4), (12), (13), (14), (15), (23) and (17), we can derive the returns to domestic capital and land in an open economy.

Lemma 2 *Under free trade in goods the real returns to the domestic factors of production are:*

$$\frac{r_{Dt}}{\left(P^*_{At}\right)^{\mu\sigma}} = \frac{1}{\left(P^*_{At}\right)^{\mu\sigma}} \frac{\partial Y_{Mt}}{\partial K_{Dt}} = \alpha \pi_t^{\frac{1}{\alpha}} \frac{A_{Kt}}{\left(P^*_{At}\right)^{\mu\sigma}} \left(\frac{L_t}{P^{*\frac{1}{\alpha}}_{At} X_t + \pi_t^{\frac{1}{\alpha}} K_t}\right)^{1-\alpha},$$

$$\frac{r_{Xt}}{\left(P^*_{At}\right)^{\sigma}} = \left(P^*_{At}\right)^{1-\sigma} \frac{\partial Y_{At}}{\partial X_t} = \alpha P^{*\frac{1-\alpha\sigma}{\alpha}}_{At} \left(\frac{L_t}{P^{*\frac{1}{\alpha}}_{At} X_t + \pi_t^{\frac{1}{\alpha}} K_t}\right)^{1-\alpha}.$$

This Lemma provides interesting insights on the effects of institutional quality, directly related to the sectoral labour allocation under free trade. Capitalists benefit from an improvement in economic institutions since this raises the marginal productivity of capital. By contrast, stronger economic institutions hurt landowners by drawing labour out of agriculture, thereby decreasing the marginal productivity of land. In an open economy, landowners can satisfy their demand for manufacturing goods through imports, and internal prices are no longer relevant. Clearly, a higher world price of agricultural goods benefits landowners and translates into a loss for capitalists.[9]

4   Introducing International Capital Mobility

We next introduce international capital mobility and allow for the possibility that foreign, more productive, capital may flow into the country. Assume that returns generated from foreign capital, K_{Ft}, are measured in terms of the domestic goods produced and transferred back to the country of origin. The real interest rate in the country is therefore $i_t^C = r_{Ft}/\left(P_{At}^C\right)^{\mu\sigma}$ in a closed economy and $i_t^O = r_{Ft}/\left(P^*_{At}\right)^{\mu\sigma}$ in an open economy, where $r_{Ft} = \partial Y_{Mt}/\partial K_{Ft}$ denotes the rate of return to foreign capital. We further let i_t^* denote the real rate of return that can be obtained on international capital markets. Finally, we assume $A_{Kt}(K_{Ft})$ to be positively related to foreign capital $(\partial A_{Kt}(K_{Ft})/\partial K_{Ft} > 0)$. A_{Kt} is hence a measure of the degree of spillovers generated by foreign capital inflows. We start by discussing the equilibrium implications for the closed economy in Section 4.1 below and proceed with the open economy in Section 4.2.

4.1   Closed Economy

The stock of foreign capital, K_{Ft}, is governed by the potential returns it will generate in the country. Using equation (2) and Lemma 1, the real returns to foreign capital in autarky are:

$$i_t^C = \frac{1}{\left(P_{At}^C\right)^{\mu\sigma}} \frac{\partial Y_{Mt}}{\partial K_{Ft}} = \frac{r_{Dt}}{\left(P_{At}^C\right)^{\mu\sigma}} \frac{1}{A_{Kt}(K_{Ft})}, \tag{24}$$

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[9] The latter result is due to the fact that $(1-\alpha\sigma)/\alpha > (1-\alpha)/\alpha$.

where $\partial i_t^C / \partial K_{Ft} < 0$ since $\partial \left(r_{Dt} / \left(P_{At}^C \right)^{\mu\sigma} \right) / \partial K_{Ft} < 0$ from Lemma 1 and $\partial A_{Kt} / \partial K_{Ft} > 0$.

The opportunity cost for foreign investors is the exogenous world real interest rate, i_t^*. Foreign capital enters the country only if returns there are at least as high as the world real interest rate. Since $\partial i_t^C / \partial K_{Ft} < 0$, it is sufficient to examine whether the latent return to the first unit of foreign capital entering the country satisfies this condition, i.e. if:

$$\widetilde{i}_t^C \equiv \left\{ \frac{r_{Ft}}{\left(P_{At}^C \right)^{\mu\sigma}} \middle| K_{Ft} = 0 \right\} = \beta \pi_t^{1-\mu\sigma} \frac{X_t^{\mu\sigma\alpha} L_t^{1-\alpha}}{\left(A_{Kt}(0) K_{Dt} \right)^{1-(1-\mu\sigma)\alpha}} > i_t^*, \tag{25}$$

where $\widetilde{i}_t^C$ is the latent return to the first unit of foreign capital under autarky (i.e. when $K_{Ft} = 0$), and $A_{Kt}(0)$ the lower-bound productivity of domestic capital when there is no foreign capital in the country. We assume $A_{Kt}(0)$ to be less than unity since domestic capital is less productive than foreign capital but this has no impact on our results. Given that $\widetilde{i}_t^C > i_t^*$, foreign capital, K_{Ft}^C, will flow into the country until, in equilibrium, i_t^C has adjusted to the world interest rate so that $i_t^C = i_t^*$. We can formulate the following lemma.

Lemma 3 *In a closed economy where $\widetilde{i}_t^C > i_t^*$ the equilibrium level of foreign capital that satisfies the interest rate parity condition $i_t^C = i_t^*$ can be found using (24) and Lemma 1:*

$$K_{Ft}^C = \max \left\{ 0, \left(\beta \pi_t^{1-\mu\sigma} X_t^{\mu\sigma\alpha} L_t^{1-\alpha} i_t^{*-1} \right)^{\frac{1}{1-(1-\mu\sigma)\alpha}} - A_{Kt}(K_{Ft}) K_{Dt} \right\}. \tag{26}$$

The lemma suggests that countries with stronger economic institutions attract more capital since the rate of return is higher in these countries. Countries with a large relative endowment of effective domestic capital $A_{Kt} K_{Dt}$, however, are characterised by lower returns to capital and are therefore less attractive to foreign investors.[10] Note that abundance in land attracts foreign capital in a closed economy through an increase in the relative price of manufacturing goods.

4.2 Open Economy

In an open economy, returns to capital can be calculated in a similar manner as under autarky. We use Lemma 2 to obtain:

$$i_t^O = \frac{1}{\left(P_{At}^* \right)^{\mu\sigma}} \frac{\partial Y_{Mt}}{\partial K_{Ft}} = \frac{r_{Dt}}{\left(P_{At}^* \right)^{\mu\sigma}} \frac{1}{A_{Kt}(K_{Ft})}. \tag{27}$$

The condition for foreign capital to flow into the country becomes:

$$\widetilde{i}_t^O \equiv \left\{ \frac{r_{Ft}}{\left(P_{At}^* \right)^{\mu\sigma}} \middle| K_{Ft} = 0 \right\} = \frac{\pi_t^{\frac{1}{\alpha}} \alpha}{\left(P_{At}^* \right)^{\mu\sigma}} \left(\frac{L_t}{P_{At}^{*\frac{1}{\alpha}} X_t + \pi_t^{\frac{1}{\alpha}} A_{Kt}(0) K_{Dt}} \right)^{1-\alpha} > i_t^*, \tag{28}$$

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[10] This follows since σ, $(1-\delta)$ and α are all less than unity.

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where $\widetilde{i}_t^O$ represents the latent return to the first unit of foreign capital in an open economy. If domestic returns to foreign capital are sufficiently high to satisfy $\widetilde{i}_t^O > i_t^*$, there exists a stock of foreign capital, K_{Ft}^O, that makes domestic returns to capital equal to the world interest rate, i.e. $i_t^O = i_t^*$. Using equation (27) together with Lemma 2, we can deduce the following.

Lemma 4 *If returns to foreign capital are sufficiently high so that $\widetilde{i}_t^O > i_t^*$, the equilibrium level of foreign capital that satisfies the interest rate parity condition, $i_t^O = i_t^*$, is:*

$$
K_{Ft}^O = \max \left\{ 0, \left(\frac{\pi_t^{\frac{1}{\alpha}} \alpha}{\left(P_{At}^*\right)^{\mu\sigma} i_t^*} \right)^{\frac{1}{1-\alpha}} L_t - \pi_t^{-\frac{1}{\alpha}} P_{At}^{*\frac{1}{\alpha}} X_t - A_{Kt}(K_{Ft}) K_{Dt} \right\}. \tag{29}
$$

The likelihood of a positive inflow of capital in an open economy increases with the quality of economic institutions. Although better economic institutions increase the demand for labour in the economy, they also increase returns to manufacturing and the latter effect always dominates.[11] A smaller stock of effective domestic capital attract foreign investors also in an open economy. Land affects returns to capital in the opposite way than it would under autarky. Instead of lowering prices, it lowers the marginal returns to capital by drawing workers out of manufacturing.

5 Political Economy

Having identified the equilibrium of the model for given economic institutions and trade and capital market regimes, we now add a political layer and endogenise the policy choices in an environment with imperfect political institutions.[12] As discussed in Section 2, we consider two types of economies that differ only with respect to the endowments of the elites who may hold either land or capital. As the incumbent autocrat caters to the needs of the elites, their endowments will also govern the leaders' objectives. We further assume that rents from the other sector cannot be expropriated by the autocrat as he needs to maintain order in the society in order to hold on to power and avoid an uprising.

The incumbent autocrat will set the institutional quality, the trade regime and the capital market liberalisation regime in order to maximise the income of the elites. Since endowments are given, returns to land and capital uniquely determine the income of the elites and therefore their indirect utility. Understanding how different policies affect returns is therefore crucial for

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[11] This follows from the fact that $1/\alpha > (1-\alpha)/\alpha$ and that $\pi_t^{1/\alpha}$ enters additively in the denominator.

[12] As discussed in the introduction, imperfect political institutions have been modelled *inter alia* as expropriation and rent seeking in the literature.

understanding the main mechanisms of the model. Moreover, since returns to capital govern the income of the capitalists and therefore bequests, understanding how policies affect returns is key to understanding capital accumulation and growth in manufacturing output and therefore the overall development of income in the two economies.

Below, we examine the implications of our model for the choices of autocrats and derive conditions for when each regime and policy will be chosen. We start by studying the interaction between trade and economic institutions in Section 5.1, and proceed by analysing the relationship between trade and capital mobility for each type of autocracy in Section 5.2.

5.1 Trade and Economic Institutions

We start by looking at the autocrats' choices on whether or not to open the economy to international trade. A capitalist autocrat prefers free trade if $V_{Kt}^O > V_{Kt}^C$. Using Lemmas 1 and 2, this inequality is satisfied when:

$$\frac{\left(\pi_t^{\frac{1}{\alpha}} K_t\right)^{1-(1-\mu\sigma)\alpha}}{\left(P_{At}^{*\frac{1}{\alpha}} X_t\right)^{\mu\sigma\alpha} \left(P_{At}^{*\frac{1}{\alpha}} X_t + \pi_t^{\frac{1}{\alpha}} K_t\right)^{1-\alpha}} > \frac{\beta}{\alpha}. \tag{30}$$

The result allows us to draw some important conclusions. First, stronger economic institutions increase a capitalist's willingness to engage in trade by making manufacturing firms more competitive. In addition, effective capital in the country in the form of relative abundance of domestic capital, inflow of foreign capital, or the productivity of capital makes a capitalist autocrat more positive towards free trade for reasons of comparative advantage.[13] The world relative price of manufacturing goods, inversely measured by $P_{At}^{*1/\alpha}$, also clearly increases the willingness of capitalists to engage in trade.

For a landed autocrat, the condition is instead $V_{Xt}^O > V_{Xt}^C$. Lemmas 1 and 2 imply that this obtains when:

$$\frac{\left(P_{At}^{*\frac{1}{\alpha}} X_t\right)^{1-\alpha\sigma}}{\left(\pi_t^{\frac{1}{\alpha}} K_t\right)^{\alpha(1-\sigma)} \left(P_{At}^{*\frac{1}{\alpha}} X_t + \pi_t^{\frac{1}{\alpha}} K_t\right)^{1-\alpha}} > \frac{\gamma}{\alpha}. \tag{31}$$

Condition (31) suggests that a land autocrat is more inclined to trade when (i) economic institutions are weak; (ii) when the country is relatively well-endowed with land (for reasons of comparative

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[13] The condition is more likely to hold the higher is π_t. This is due to the fact that $1-(1-\delta\sigma)\alpha > 1-\alpha$ and that $\pi_t^{1/\alpha}$ enters additively in the denominator.

advantage); (iii) when the world relative price of agricultural goods, P_{At}^*, is high.[14] We may formulate the following proposition.

Proposition 1 *Given an initially low level of economic institutions, π_0, a country with a comparative disadvantage in manufacturing (low K_t/X_t, low P_{At}^C/P_{At}^*) opens to trade if ruled by a land autocrat, but remains closed under a capital autocrat.*

Proof. Equation (30) shows that the inequality does not hold for a sufficiently low level of K_t since K_t enters additively in the denominator and with a smaller exponent. A low level of K_t is the same as having a comparative disadvantage in manufacturing. Furthermore, equation (31) shows that the inequality holds for a sufficiently low K_t since K_t only appears in the denominator. ∎

The result follows from the fact that owners of a relatively abundant factor, in this case land, prefers free trade to autarky since it raises their real income through a favourable change in relative prices. The opposite holds for owners of relatively scarce factors, in this case capital.

We next turn to the utility maximisation problem of the ruling autocrat to see how he sets the level of economic institutions for a given trade regime. Looking at factor returns under the different regimes in Lemmas 1 and 2, we note that a capital owner will always benefit from stronger economic institutions as

$$\frac{\partial V_{Kt}^C}{\partial \pi_t} > 0, \quad \frac{\partial V_{Kt}^O}{\partial \pi_t} > 0.$$

This is because better economic institutions raise the marginal productivity of capital. Turning to returns to land, given that the assumptions in Proposition 1 hold, a landed autocrat in an open economy prefers weaker economic institutions since

$$\frac{\partial V_{Xt}^O}{\partial \pi_t} < 0.$$

Weak economic institutions in this case lower the marginal productivity of labour in manufacturing and leaves more workers in the agricultural sector. In a closed economy, however, a landed autocrat still favours strong economic institutions since this reduces the relative price of manufacturing goods:

$$\frac{\partial V_{Xt}^C}{\partial \pi_t} > 0.$$

Interestingly, globalisation appears to change the incentives of the landed autocrat in a way that is not beneficial for industrial growth.

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[14] The second and third statements follow from the facts that $1 - \alpha\sigma > 1 - \alpha$ and that $P_{At}^{*1/\alpha}$ enters additively in the denominator.

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Proposition 2 *A capital autocrat always seeks to strengthen economic institutions regardless of whether the country is closed or open to trade ($\partial V_{Kt}^C/\partial \pi_t > 0$, $\partial V_{Kt}^O/\partial \pi_t > 0$). A landed autocrat chooses to keep institutions weak in an open economy ($\partial V_{Xt}^O/\partial \pi_t < 0$), but strengthens them in a closed economy ($\partial V_{Xt}^C/\partial \pi_t > 0$).*

Proof. The results follow trivially from lemmas 1 and 2 since π_t appears either only in the denominator or only in the numerator in these expressions, except for the case of the real return to capital in an open economy. In this case (the first equation in lemma 2), however, π_t appears multiplicatively in the numerator and additively in the denominator. Moreover, this term has a greater exponent in the numerator. This means that $\partial V_{Kt}^O/\partial \pi_t > 0$. ∎

The reason a capitalist autocrat prefers better institutions, regardless of trade policy, is that it raises the productivity of the factor that the autocrat owns. For landed autocrats, it is more complex. In a closed economy, higher productivity in manufacturing increases the relative supply of manufacturing goods which raises the relative price of agricultural goods. Since the share of workers that work in agriculture is fixed in a closed economy, this rise in the relative price of agriculture benefits land autocrats by raising their real income. This leads a land autocrat to improve economic institutions under autarky. In an open economy, however, relative prices do not change. Workers, therefore, respond to changes in economic institutions by moving into the sector that pays the highest wages. A land autocrat therefore has an incentive not to improve economic institutions since this would give workers an incentive to migrate from agriculture to manufacturing. The key difference between the closed and open setting is that, in autarky, relative prices exactly cancel out any changes in productivity in a sector and this leaves the allocation of labour unchanged. In an open economy, however, relative prices are fixed which makes the allocation of labour sensitive to the relative performance of the two sectors, giving an autocrat stronger incentives to improve the relative performance of the sector in which the autocrat's primary factor is employed.

5.2   Trade and Capital Market Liberalisation

We now turn to the autocrat's decision on whether or not to allow for the inflow of foreign capital in different trade regimes. On the entry of foreign capital, what matters is not only whether the autocrat allows for capital inflows or not, but also whether returns are such that the country is able to attract foreign capital. Lemmas 1 and 2 show that a landed autocrat is in favour of the entry of

foreign capital under a closed trade regime but against it in an open economy:

$$\frac{dV_{Xt}^C}{dK_{Ft}} > 0, \qquad \frac{dV_{Xt}^O}{dK_{Ft}} < 0. \tag{32}$$

In other words, trade and capital mobility are *substitute policies* in a land autocracy. Moreover, since the landed autocrat maintains weak institutions when open to trade, foreign investors are unwilling to invest in the country even if they were allowed to do so.

Turning to the decision of the capitalist autocrat, Lemma 1 shows that the effect of foreign capital on the returns to domestic capital is ambiguous. Foreign capital enters directly into the denominator of domestic returns since it lowers the marginal productivity of domestic capital due to diminishing returns. However, foreign capital also enters the numerator through its technological spillovers on domestic capital, here captured by A_{Kt}. Therefore, a capitalist autocrat only favours capital inflows if the gains from the productivity spillovers outweigh the losses from the direct reduction in the marginal productivity of capital:

$$\frac{dV_{Kt}}{dK_{Ft}} > 0 \qquad \text{if} \qquad \frac{\partial V_{Kt}}{\partial A_{Kt}}\frac{\partial A_{Kt}}{\partial K_{Ft}} > \frac{\partial V_{Kt}}{\partial K_{Ft}}. \tag{33}$$

Taking the total derivative of the indirect utility functions with respect to K_{Ft} using Lemmas 1 and 2, we find that

$$\left.\frac{dV_{Kt}^C}{dK_{Ft}}\right|_{K_{Ft}=0} > 0 \text{ if } \psi_t > \psi_t^C = (1 - (1 - \mu\sigma)\alpha), \tag{34}$$

$$\left.\frac{dV_{Kt}^O}{dK_{Ft}}\right|_{K_{Ft}=0} > 0 \text{ if } \psi_t > \psi_t^O = \frac{\pi_t^{\frac{1}{\alpha}} K_{Dt} A_{Kt}(1-\alpha)}{\left(P_{At}^{*\frac{1}{\alpha}} X_t + \pi_t^{\frac{1}{\alpha}} A_{Kt} K_{Dt}\right)},$$

where we let $\psi_t \equiv K_{Dt}A'_{Kt}(0)/(1 + K_{Dt}A'_{Kt}(0))$ be an index of potential spillovers from foreign capital between 0 and 1 at the point where no foreign investment has yet taken place in the country. From (34) it is easy to see that

$$\psi_t^O < \psi_t^C \tag{35}$$

since $\pi_t^{1/\alpha}A_{Kt}K_{Dt}/\left(P_{At}^{*1/\alpha}X_t + \pi_t^{1/\alpha}A_{Kt}K_{Dt}\right) < 1$ and $(1-\alpha) < 1 - (1-\mu\sigma)\alpha$. In other words, the threshold spillovers above which $dV_{Kt}^O/dK_{Ft}\big|_{K_{Ft}=0} > 0$ lies below the value of spillovers that results in $dV_{Kt}^C/dK_{Ft}\big|_{K_{Ft}=0} > 0$. Therefore, as long as spillovers are sufficiently large ($\psi_t > \psi_t^O$) to satisfy (33), so that the inflow of capital is a feasible option in the eyes of the autocrat, he chooses to liberalise capital markets when open to trade but not in autarky.[15] We conclude that trade and

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[15] Note that very high levels of ψ_t^i, at which autocrats would favor capital inflows also in autarky, are not relevant for our analysis. In such cases excessive spillovers discourage foreign investors as can be seen from A_{Kt} appearing in the denominator of the latent returns to foreign capital in (25), (28) and entering negatively in the equilibrium level of foreign capital in Lemmas (3) and (4).

capital mobility are *complementary policies* in a capital autocracy and may formulate the following proposition.

Proposition 3 *Trade in goods and capital are substitute policies in a land autocracy but complementary policies in a capital autocracy.*

Proof. The result in equation (32) follows directly from examining the derivatives with respect to K_{Ft} of lemmas 1 and 2. The result for a capital autocracy follows from (33), (34) and (35). ∎

The reason trade and capital are substitutes in a land autocracy is closely linked to our result in Proposition 2. In a closed economy, a larger capital stock (and more efficient domestic capital) raises the relative price of agricultural goods and hence the real income of a land owner. Under free trade, however, a larger capital stock will affect the sectoral allocation of workers to the disadvantage of land owners. For a capital autocracy, the problem is very different. The inflow of foreign capital has potentially three effects on domestic capital owners and these effects go in opposite directions as far as the real returns to capital are concerned. The positive effect of foreign capital is that it causes technological spillovers that raise the productivity of domestic capital. The two negative effects are, first, that (for a given allocation of labour) more capital implies more capital per worker in the manufacturing sector and this lowers the marginal productivity of all capital. Second, the foreign capital increases the supply and lowers the relative price of manufacturing goods. Under autarky, all three effects are present. But under free trade, the third effect disappears since relative prices are fixed. Therefore, capital autocrats are more likely to favour capital inflows under free trade than under autarky.

5.3 Development

Our model identifies two channels that govern whether a developing country with imperfect political institutions moves towards growth or stagnation. The two channels are the interaction of the trade regime with first, the institutional quality and second, with policies towards capital market liberalisation. The nature of this interaction is uniquely determined by the type of the political elites. We consider two capital-scarce economies that only differ with respect to the endowments of the elites. Below, we discuss the growth implications of our key findings.

We find that if the elites are capitalists, the economy initially remains closed to trade as the politically influential group own the factor in which the country has a comparative disadvantage. In

this closed capitalist economy, the ruling autocrat strengthens economic institutions which results in an improvement in the productivity of capital up to the point where a comparative advantage in manufacturing goods has emerged. In addition, trade in goods and capital imports are complementary policies in the capital autocracy. This implies that when the capitalist economy eventually opens to trade, the autocrat is also in favour of foreign capital inflows. The gradual strengthening of institutional quality has rendered the economy attractive to foreign investors and once the autocrat liberalises capital markets, returns to capital will be sufficiently high for foreign capital inflows to manifest. These findings are in line with Antràs and Caballero (2009) who argue that in financially less developed economies, trade and capital mobility are complements. In their model, trade integration increases returns to capital and makes the country more attractive to foreign investors.[16]

Turning to the growth prospects of the capital autocracy, we have shown that improvements in the institutional quality will increase returns to domestic capital and promote the inflow of foreign, more productive capital spilling over on the effective domestic capital stock. Both these mechanisms are sources of growth. Since returns to domestic capital govern the income of capitalists and hence the amount of bequests left for future generations, capital accumulation is positively related to historic returns. In an economy where returns are growing, capital will accumulate over time. A growing capital stock does, however, dampen the returns to capital, which will offset the positive effect of institutional improvements on returns. Nevertheless, since this economy is attractive to foreign investors, spillovers from foreign capital inflows will also boost the effective capital in the economy and spur economic growth. This feature of the model is consistent with Hsieh (2002), who shows how technological spillovers from the inflow of foreign capital can prevent a fall in the returns to capital and trigger further investment in the economy. We conclude that the improvements in institutional quality in the capitalist autocracy will raise returns to capital but that the effect will be somewhat offset over time as the capital stock grows. However, if the spillovers from foreign capital are sufficiently strong, the positive effects of liberalised capital markets are likely to dominate and set the stage for high growth and development in the capital autocracy.

In a land oligarchy, it is optimal for the ruler to open up to trade at an early stage of development as the influential elite own the factor in which the country holds the relative comparative advantage. We find that a land autocrat that has opened up to trade will block improvements in

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[16] For a thorough analysis of the endogenous preferences of the ruling elite towards inward foreign direct investment see Albornoz, Galiani and Heymann (2008).

the quality of economic institutions beneficial for the manufacturing sector. In addition, trade in goods and capital are substitute policies in the land autocracy. Globalisation therefore leads the land autocracy towards stagnation by failing to create an incentive to improve institutional quality, thereby discouraging domestic capital accumulation as well as the inflow of foreign capital.[17] The failure to accumulate neither domestic nor foreign capital will imply low growth in the land autocracy and launch the country on a path to stagnation.

6   Historical Accounts

In this section, we place our model in a historical context and argue that it is particularly relevant for analysing developments in Argentina, South Korea and Taiwan.

Historical accounts suggest that the politically influential group of any country tends to be in possession of the economy's natural resources. In traditionally agrarian economies, such as Argentina in the 19th century, the political power of landowners is undisputed, see for instance Taylor (1997). However, in more industrialised economies with a developed business sector, the elites instead tend to be capitalists who derive profits from manufactures. South Korea is an example of an economy where the powerful industrial families of the Jaebols constituted a politically influential group from the 1950s onwards, see for instance Kim (1976). The strong influence of capitalists and bankers in Shanghai under the Kuomintang regime in the late 1920s is also well documented, see for instance Coble (1979).

The model's predictions for the land autocracy are broadly consistent with the evolution of the landed Latin American economies of the 19th century. History reveals that these economies opened up to trade at an early stage of development, focusing on exports of primary goods. Since the elites were predominantly landowners in these economies, the model provides a rationale for why they favoured globalisation early on. The model is also consistent with the weak institutions that were a feature of the Latin American landscape at the time and can help explain why the region failed to attract foreign investors. In Argentina, the period prior to the Peronist rule as well as the period of military rule in the 1980s, were characterised by liberal trade policies combined with poor institutional settings. One caveat of our model is that it does not allow for the possibility

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[17] Note that in a closed land autocracy, the ruling elite would be in favour of stronger institutions and the inflow of foreign capital. Including this case does not invalidate our results because a comparison of the utility of landlords in Lemmas 1 and 2 reveals that, in an economy with a comparative disadvantage in manufacturing (low P_{At}^* and large X_t/K_t), they are better off in an open economy with weak institutions than in autarky and strong institutions. Furthermore, it is more plausible to think of the trade regime as a policy that precedes economic institutions as it is easier to open to trade than to improve institutional quality, which is a gradual process that takes time.

of import substitution - an important chapter in the economic history of, for instance, Argentina. However, import substitution appears to have been more important under the more democratic Perón government than under both the preceding autocratic governments and the subsequent military rulers who were influenced by large landowners and favoured trade liberalisation (Galliani and Torrens, 2011).[18] Import-substitution policies are likely to have played an important role in the development of several important economies in Latin America and elsewhere, but are beyond the scope of the model and left for future research.

The model's predictions for the capital autocracy help shed some light on some of the mechanisms likely to have been at work in some East Asian economies in the postwar era, for example South Korea and Taiwan. As discussed above, it is often believed that the autocratic governments in these two countries were heavily influenced by industrialists and the financial industry. Rodrik (1994) emphasises that the governments in these economies prioritised industrial development and sought to affect comparative advantage by various policy measures. The GDP per capita levels in these two countries were in 1960 on par with those in many sub-Saharan countries and far below large Latin American countries such as Brazil, Argentina or Mexico. During the following three decades, however, the average growth rates of GDP per capita have averaged almost 7 percent. The cases of Taiwan and South Korea follow our predictions very closely. In the 1960s, domestic levels of investment rose sharply and many have argued that this rise in investment was closely connected to government policy. Rodrik (1994) writes:

> "... in the early 1960s and thereafter the Korean and Taiwanese governments managed to engineer a significant increase in the private return to capital. They did so not only by removing a number of impediments to investment and establishing a sound investment climate, but more importantly by alleviating a coordination failure which had blocked economic take-off". (p. 2)

Importantly, however, export to GDP ratios remained relatively low throughout the 1960s but rose sharply, in fact almost doubled, during the early 1970s. The 1970s and the 1980s were also

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[18] Several studies addressing the stagnation of Latin America identify the concentration of land ownership as a possible culprit, see for instance Persson and Tabellini (1994), Engerman and Sokoloff (2000) and Adamopoulos (2008). Galor, Moav and Vollrath (2009) show that inequality in land ownership may be detrimental to the emergence of institutions promoting human capital and may therefore delay industrialisation. On a similar note, Galiani et al. (2008) study investments in public education in economies governed by landlords who do not engage in the production of manufacturing goods. They argue that such economies fail to sustain strong educational institutions since the elites do not benefit from more educated workers.

the decades when Taiwan started to receive large inflows of foreign direct investment.[19] These two countries thus remained closed well into the 1960s, while the capital stock and competitiveness grew. In time, however, the autocratic rulers in these countries found it favourable to enter world markets and started to allow for inflows of foreign capital.

In sum, the most common views on the development of Argentina, South Korea and Taiwan appear to be largely consistent with our model. Building a model that is in line with the consensus view of the factor endowments of the political elites and therefore the objective of the autocratic leaders in these countries, we demonstrate how the interaction between institutional quality and trade in goods and capital may generate sequences of events in accordance with actual developments in these economies.

7   Concluding Discussion

In this paper we present a specific-factor model of an economy where the ruling autocrat may or may not choose to open up to trade and liberalise capital markets. We argue that the endowments of the political elites, and hence the preferences of the incumbent autocrat, can have far-reaching effects on the economy's long-run development. We show that there is a delicate relationship between institutional quality and openness to trade in goods and capital and that the interaction between these factors may help explain the heterogeneous performance of potentially open economies with imperfect political institutions. We consider an economy that starts out with a comparative disadvantage in manufacturing and vary the assumption about the nature of the political elites.

We find that if the political elites are endowed with land, the autocrat is likely to embrace globalisation at an early stage. Opening up to trade, however, creates an adverse incentive not to enforce institutional quality which discourages capital accumulation and results in the failure to attract foreign investors. In such a land-oriented autocracy, trade in goods and capital market liberalisation are substitute policies and due to the weak institutions that ensue, the economy is bound to stagnate over time. We argue that the results for the land autocracy are broadly consistent with the development in Argentina during the pre-Perónist era and during the military rule of the 1980s.

If the political elites are instead endowed with capital, the autocrat is likely to maintain a closed

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[19] Source: *Statistics on Approved Overseas Chinese and Foreign Investment by Area*, the Investment Commission, Ministry of Economic Affairs, Taiwan.

economy while strengthening economic institutions. The continuous strengthening of institutions will lead to capital accumulation and a gradual shift towards a comparative advantage in manufacturing that eventually will make the autocrat favour international trade. The strong institutions will make the economy attractive to foreign investors and productive capital will flow into the country and spur the accumulation of effective capital. In a capital autocracy, trade in goods and capital are thus complementary policies that will lead to rapid growth and long-term development. Our results for the capital autocracy are consistent with actual developments in the tiger economies of South Korea and Taiwan during the postwar period.

We have chosen to model an autocracy rather than a democracy since this simplifies the political-economy layer of the model. However, our results would obtain also in a democracy where the political elites could form a political lobby and exert pressure on the democratic leader. The results are thus fairly general and could be derived from a more general framework with imperfect political institutions.[20] The model can be extended in several interesting dimensions. It would be interesting to study the foundations of institutions in greater detail and to add microfoundations for, for instance, firms' incentives to invest in new technology. Another interesting possibility would be to introduce a number of explicit trade policies and let the ruling autocrat set tariffs. In such a setting, import substitution could be incorporated in a realistic fashion. Finally, history teaches us that precautionary savings may have contributed to high saving in East Asia. The idea here is that East Asia's history of wars and unrest have led its citizens to save in a precautionary manner. Incorporating such cultural differences in a dynamic model of growth and development could therefore also prove an interesting avenue for future research.

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[20] See for instance Levchenko (2012) for a framework with political lobbying or Galiani and Torrens (2011) for a model of conflict between the elites.

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