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**Factor endowments and inflows in Ethiopia:  
A Third Path to Industrialization?**

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## **Abstract**

The aim of this work is to determine whether Ethiopia is uniquely suited to pioneer a path to industrialization that could be distinguished from the two major existing frameworks. In short, the idea is to identify *what* ingredients could conform such third recipe, to inform the quest of its stakeholders for a *how* to industrialize this and other developing nations. Our core hypothesis is that the country has access to a set of productive factors that is rare enough to coin a new, 'Southern model', in contrast with the Western and Eastern ones. Our analysis of said set is divided on its two core sources: factor endowments and inflows. We will try to prove, first, that the African nation has a mix of abundant land and labor that differentiates it from the Western or British path, remarkably intensive in capital, and the Eastern or Japanese one, whose natural resources were rather scarce in comparison. Then, we will attempt to demonstrate that Ethiopia enjoys an unprecedentedly favorable position to import the only productive factor it lacks, capital, accounting for its access to previously inexistent flows such as aid and remittances and the propitious global context.

Key words: Ethiopia, industrialization, development, factor endowments, factor flows.

## **Resumen**

Este trabajo busca determinar si Etiopía podría ser la pionera de un tercer camino hacia la industrialización que pudiera ser distinguible de los dos principales modelos existentes. La idea es identificar *qué* ingredientes podrían conformar dicha tercera receta, guiando así a sus stakeholders en la búsqueda de un *cómo* industrializar esta y otras naciones en desarrollo. Nuestra hipótesis central es que el país tiene en efecto acceso a un conjunto de factores productivos lo bastante inusual como para acuñar un nuevo 'modelo sureño', en contraste con los modelos occidental y oriental. Nuestro análisis de dicho conjunto se divide en sus dos principales fuentes de origen: dotaciones e importaciones de factores. Buscaremos probar, primero, que la nación africana tiene una mezcla de abundante tierra y trabajo que lo diferencia del modelo occidental o inglés, intensivo en capital, y del oriental o japonés, cuyos recursos naturales eran más bien escasos en comparación a ella. Después intentaremos demostrar que Etiopía disfruta de una posición sin precedentes para importar el factor productivo que le falta, el capital, estudiando su acceso a fuentes de importación previamente inexistentes como las ayudas y remesas y su propicio contexto.

Palabras clave: Etiopía, industrialización, desarrollo, dotaciones y flujos de factores.

“Utopia lies at the horizon.

When I draw nearer by two steps, it retreats two steps.

If I proceed ten steps forward, it swiftly slips ten steps ahead.

No matter how far I go, I can never reach it.

What, then, is the purpose of utopia?

Precisely that: to walk”

Eduardo Galeano

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## **1. Introduction**

### 1.1 Purpose

This piece consists in a theoretical study of the prospects for the Ethiopian development, framed in the broader context of economic development as an object of scientific scrutiny. Its importance is hard to overstate from a comparative perspective, for the threshold that the industrializing phase of economic development represents is second to none in terms of the material improvement that transitioning it brings to the general standards of living. The main interest of the topic relies on its humanitarian and economic consequences for Ethiopia itself, as well as the impact on the Global South of its story of self-empowerment.

The timespan choice answers to the fact, to this day, that most African nations remain unable to successfully industrialize their economies. Moreover, it is only after the recent years of sustained and rapid economic growth that Ethiopia has proven to be suitable, on an institutional level, to be subject of an industrial policy that is comprehensive enough. Any policy advise that could be drawn from the investigation that will be undergone here would apply only when such previous process of elementary state-building is underway. Determining the prospects of such process is of crucial interest for not just policy-makers, but private investors, foreign governments, NGOs and multilateral organizations as well.

The case choice answers to the same rationale. While there are other suitable candidates to star in another story of economic miracle, Ethiopia is among the few, if not the only, fitted to do so in a manner that could revolutionize the existing conventional wisdom regarding the abstract classification of industrializing paths into two main frameworks.

Achieving modern rates of economic growth, as opposed to the pre-modern stagnation, is an incredibly challenging endeavor. So much so, that no single society had managed to do so until a few centuries ago -which is, historically speaking, an extremely narrow gap. The very few to ever succeed at it did so by giving a central role to leveraging their factor endowments, which has left us with two major models for industrialization: the Western one, intensive in capital and resources, and the Eastern one, rather focused on cheap labor. Ethiopia presents a unique set of productive factors, though, which could qualify her to develop an entirely new path towards modern economics. Accounting for this hypothesis, as well as demonstrating its comparative uniqueness, is the central aim of our Section 3 focusing its 3.1 subsection on the static component of such set, the factor endowments.

Said sets are not entirely static, though, for constraints on factor endowments vary through dynamic flows across borders. While dissecting the complexity of the patterns which such flows follow is an entire branch of academic research that exceeds our current scope, its consequences for industrializing prospects (and for related matters like policy-making), on the other hand, are indeed within our analytical reach, and thus conform Section 3.2. They will be key to grasp how the Ethiopian case could reshape our theoretical knowledge on industrialization, for it has both means to channel said trade that were not accessible to prior industrializing economies (most remarkably, capital inflows from its diaspora remittances and international aid) and access to an unprecedentedly favorable environment. The latter includes the African Continental Free Trade Area (AfCFTA, henceforth), fruit of the efforts of the African Union to bring the economies of its members closer through regulatory harmonization. In fact, it is the largest free trade area in modern history, which has crucial consequences for our research objectives, for it blurs the distinction between the foreign and the domestic when it comes to foreign investments in Africa and Ethiopia. It also accounts for the success of the post-1945 global economic order at enhancing flows of factors such as the capital inflows that the AfCFTA is meant to attract, given the attractiveness of a continental consumer base bound to reach 2.4 billion people in 2050.<sup>1</sup>

## 1.2 Research questions

The central question to answer with this work is whether the Ethiopian productive factors suit the country to pioneer a new path to industrialization. Our analysis includes a static dimension, concerned about factor endowments, and a dynamic one on factor importing. The hypothesis to test is that Ethiopia indeed has a set of ingredients that, if properly leveraged by its stakeholders, could result in a brand-new recipe for industrialization.

To begin with, its factor endowments are seen through two complementary lens: first, analyzing them from a comparative perspective, drawing parallelisms with previous experiences and models of industrialization; then, scrutinizing them for what they are and how could they deliver pro-growth ‘dividends’. We also conjecture about the possible impact of local productive constraints rooted in such endowments and the available means of importing lacking factors on multi-causal political realities like predatory imperialism. Albeit laying beyond our scope, the discussion on such controversies is intellectually stimulating and worth mentioning, especially accounting for a region as affected by them.

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<sup>1</sup> See: *World Population Prospects, the 2017 Revision: Probabilistic Projections* (United Nations, 2017).

Secondly, we go a sept further to analyze the consequences of the movements of those factors across borders, accounting for its fundamental role in overcoming local productive constraints. We deliberately avoid a technical discussion over what theoretical framework is more adequate to dissect commercial trends in detail, for their impact on the prospects for industrialization can be studied from a more generalist standpoint. For example, per the basic principle of comparative advantage, Japanese policy-makers correctly predicted the immense potential of leveraging their abundant labor to import the capital they lacked. Ethiopia could, following our previous hypothesis, undergo a similar process of factor re-balancing in a distinctive manner, given (1) its unprecedentedly favorable context and (2) access to new importing means. Regarding the former, we do not only account for recent regional developments such as the AfCFTA, but also for the post-1945 global economic order. In relation to the later, we study the impact of sources of capital imports that were previously unavailable due to their relative novelty, such as remittances and foreign aid.

All in all, the central question here is whether, *not how*, Ethiopia could leverage its unique sources of productive factors, static (endowments) and dynamic (new importing means), to pioneer a genuinely new approach to development. Our thesis is that it could, indeed: its edge is based upon particularities that are uncommon enough in themselves, and even more so when combined, to pave an novel path to industrialization. Which could enrich our understanding of such process and inform the stakeholders concerned by said *how*.

This piece ends with a conclusive part that reviews the overall diagnosis that we draw from them. We will argue that, in the light shed by the findings of those two sections and at least on a theoretical extent, Ethiopia does have the ingredients to craft a novel recipe for achieving industrialization. May the theoretical approach that we have laid down here serve to inform further efforts towards such goal from both policy-makers and civil actors.

### 1.3 Methodology

The methodology underneath our work is that of the case study. In particular, the issue is tackled within the theoretical research on developmental economics, economics of trade, poverty eradication, economic history and the macroeconomic effect of free trade areas. Within a qualitative approach, the geographical, economic and politico-historic roots of the matter are observed through the lens offered by both primary and secondary sources. Regarding the former, it is due to underline the key role for the completion of this piece played by databases on demographics (such as the United Nations and the World Bank

estimates), macro and microeconomic figures (like the International Monetary Fund Dataset, among others), and geographical facts (for example, the one conducted by the World Bank regarding the great possibilities offered by the underexploited Ethiopian mining sector, for which we will account in Section 3.1).

Likewise, our work relies on secondary sources in the form of institutional reports, scholar essays and academic papers. The prospects for African development have understandably drawn a significant amount of interest within and beyond the academia, which has caused a notable literature that we will furthermore supplement with the knowledge borrowed from other academic fields, most remarkably, economic history and economics of trade.

#### 1.4 Framework

Given the aforementioned multidisciplinary nature of the matter of discussion we treat, accounting for it comprehensively will require us a variety of approaches. Nourishing the structure priorly stated, the several perspectives from which this work has been drawn can be divided into two groups. First, one focused on economic development, giving hints on the difference amid Ethiopia and the previously explored paths to industrialization. Second, one focused on trade economics, explaining the optimistic background of our later reasoning on the evolution of factor endowments in open economies (Section 3.2).

##### 1.4.1 Developmental economics

We regard the marginal contribution of any single factor to production as productivity. The involved factors are consequently regarded as productive factors, and have classically been grouped, since the times of Adam Smith, in three categories: labor, capital and land.

Further nuances are introduced *a posteriori*. For instance, we can distinguish between different degrees of skills within labor, types of capital (machinery, savings, brands, etc.) or sorts of ‘land’ (from actual soil to strategic location, even including natural resources).<sup>2</sup>

Efficiency is the ability to produce an output while reducing the inputs priorly required. It relies on productivity inasmuch as it consists in expanding said marginal contributions. Productivity growth, otherwise known as ‘economic development’, can be understood as the accumulation of successive efficiency gains. In a compounded fashion, every single step uphill serves to ground the following ones, giving the function an exponential nature.

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<sup>2</sup> How each should be rewarded is the most central debate in economics, but exceeds the scope of this paper.



Industrial policy is the term most commonly used to regard the State-based institutional action with the aim of fostering or redesigning the industrial sector of a given economy. The kind of development-oriented action that we seek to inform with our work, however, goes beyond policy-makers, reaching other involved actors, i.e., private ventures or NGO. While it is true that studying the comparative strengths of the Ethiopian case regarding industrializing endeavors could involve a revolution of the theoretical understanding of development matters, it could reveal crucial data for investors and charity projects as well.

For instance, pointing out a comparative edge in terms of factor endowments, as we will do in Section 3.1, could serve to identify potential business opportunities and policies that would leverage such relative advantage. In terms of trade, like the one we study in Section 3.2, fostering the factor flows with a larger effect on productivity growth could, i.e., help realize the potential importance of remittances and a properly designed international aid.

The success of the East Asian model is revealing. Countries like Japan, South Korea or China have successfully leveraged through international trade their comparative edge on factor endowments. In their case, their most abundant resource was labor, which thus had a relatively low price that could serve as an incentive to attract direct foreign investment. The Ethiopian economy has cheap labor nowadays as well, but its advantages go beyond just that. In addition, its means to import capital also go beyond labor-intensive exports.

#### 1.4.2 Trade economics

The crucial role played by trade in processes of development and industrialization is often misunderstood. Following one of the most renowned experts on the matter, Paul Krugman<sup>3</sup>, we would like to use this introductory subsection to debunk some of the common myths relying on comparative advantage, one of the oldest<sup>4</sup> and most robust<sup>5</sup> economic insights.

Some seem to believe that trade is only beneficial for countries that can stand competition. In this rationale, poorer economies would struggle to benefit from international trade, for there could hardly be anything that they are able to produce more efficiently than others.

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<sup>3</sup> Krugman, P. (2011: 37-40). *International Economics: Theory & Policy, 9th Edition*. Addison and Wesley.

<sup>4</sup> Smith (1977).

<sup>5</sup> Paul Samuelson was once challenged, before becoming a Nobel Laureate in 1970, by the mathematician Stanislaw Ulam to "name me one proposition in all of the social sciences which is both true and non-trivial." It was only after a few years that he finally decided to pick the well-known notion of comparative advantage as his response to the challenge of Ulam. "That it is logically true need not be argued before a mathematician; that it is not trivial is attested by the thousands of important and intelligent men who have never been able to grasp the doctrine for themselves or to believe it after it was explained to them." (Samuelson, 1969).

Or, at best, they would have to rely on low wages to remain competitive, which would somehow make international trade incompatible with improving the standards of living. Fortunately enough for the Ethiopian development, the opposite happens to be the case.

In our framing, both sides can benefit from trade even when one of them is more efficient, in absolute terms, producing all the goods and services that are traded between the two. An absolute advantage is neither sufficient nor even necessary to yield a comparative one, for competitiveness is not only a matter of productivity (what is produced with a given amount of inputs) but also of factor prices (what is the cost of said inputs in each market). When production costs are sufficiently lower in a poor country relative to a richer one, given the cheaper price of productive factors such as labor due to their relative abundance, trade can be mutually beneficial. However, said low wages lead us to our second myth.

What Krugman (2011: 37) regards as the “pauper labor argument” argues that trade based on that dynamic tends to depress the wages of the richer nation, leveling out both of them. The misconception here is similar as the one depicted above: the gains of a country from trading with another one are independent from whether their competitive edge is due to high productivity or low wages, all that matters is that trade provides access to goods and services at a lower price than if that country were to produce them in a context of isolation. Yet, getting to our last myth, what about the countries whose edge depends on low wages?

This is a understandably controversial matter. The humanitarian consequences of the low wages that result from the productivity cliff that separates the developing world from the developed economies are striking. However, as Krugman (2011: 39) himself points out, questioning the desirability or fairness of such situation requires to determine whether those workers would be better off if they were to refuse to participate from said trading. In that framing, their living standards would be even worse if the access to the trade gains mentioned above was taken out of the equation. Denying them the opportunity to trade is effectively condemning them to an even deeper state of misery, and they should rather be actively encouraged to engage in such trade and gather the notable gains that it provides.

All in all, in our view, trade should constitute a central tool to foster industrialization in Ethiopia, and thus we dedicate the Section 3.2 to analyze it, along with newer means of exchanging productive factors. We also account for the importance of the recently passed AfCFTA), expected to boost the intercontinental trade flows and attract larger portions of direct foreign investment in the region, increasing its attractiveness as a common market.

## 1.5 Literature review

The aim of this section is to survey and summarize the major findings of the existing literature regarding our topic of study: the industrialization of the Global South, broadly speaking, and of Ethiopia in particular, specifically when compared to the two most important frameworks that have encompassed the previous experiences on the matter. As mentioned above, industrialization is a crucial threshold for human welfare, perhaps the single transition with the largest impact on popular standards of living. The interest aroused by the topic among scholars, along with the work invested in investigating it, are, hence, notable. Given the multidisciplinary nature of the subject, a variety of approaches are required to account comprehensively for its several dimensions. With that in mind, we intend to present here the resulting literature in an apprehensible, summarized fashion.

The factor-based dichotomy between the Western and Eastern models of industrialization has been present in the field of development economics since the success of the first Asian nations in surpassing their local productive constraints. An example that highlights the key parallelism with Africa in terms of labor abundance is Otsuka and Sugihara (2019). Interestingly, the potential for boosting economic growth through land endowments has been a subject of academic scrutiny too, and Ethiopia is no exception (World Bank, 2014). A similar emphasis on factor endowments has been central for the recent developments in economic history regarding the industrialization of the United Kingdom (Allen, 2011).

The importance of trade at the time of overcoming said factor-based local constraints to productivity growth has been widely regarded as perhaps the most solid discovery yielded by economic research (Samuelson, 1969). And fairly so, for the large body of evidence supporting it has been comprehensively surveyed by many scholars (Durlauf et al., 2005). Its interdependence with land-related endowments such as location has also been a matter of consensus for decades among trade economics researchers (Frankel and Romer, 1999). The advantages it provides to late-movers in terms of technological transfer have equally been a largely accepted notion for a long time, after the Gerschenkron (1962) framework.

The scholar attention drawn by Ethiopia has been remarkable as well. Among the many pieces of research available, some of the most comprehensive ones have come from entities such as the World Bank (2010, 2013, 2014, 2015 and 2019), the International Monetary Fund (2015), the World Trade Organization (2011), the OECD (2007 and 2018) or the research programs led by the United Nations themselves (2017, 2018 and 2019).

## 2. Contextualization

In order to grasp the importance of the transition from a pre-industrial economy to an industrial or post-industrial one, as well as the challenges that it entails, we have to take into account two of the most fundamental thresholds through which the African countries will have to pass on the way of raising their productivity to the Western world standards. The challenge that surpassing them involves have deserved them both the label of “trap”.

### 2.1 The Malthusian Trap

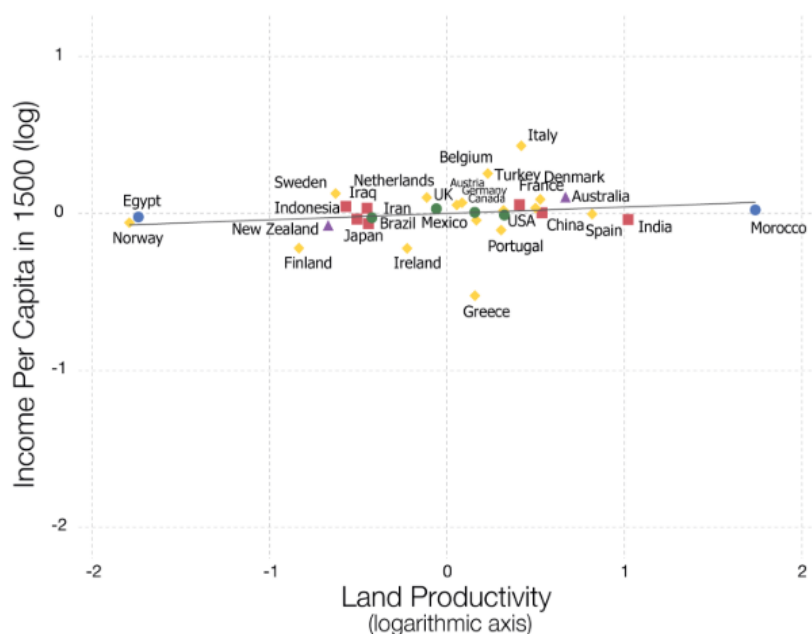
Within the boundaries of Africa there are still large international differences in terms of development. The most disadvantaged countries still face the crudest forms of poverty, and the first threshold that stands in their way to modern standards of human welfare still is, to this day, the famous curse of Thomas R. Malthus: productivity growth is too slow to decouple from demographic growth, and thus efficiency gains are translated into more people rather than a larger supply of goods and services in a marginal or per capita basis. As the first and most transcendental threshold in the road to developing industrialization, the so-called “Malthusian Trap” has set the boundaries of human welfare for the largest part of human history. Ironically enough, that stopped being the case around the time when the author lived and wrote down this very notion. During the 17<sup>th</sup> Century, some Northwestern European countries (mainly Britain and the Dutch Republic) started seeing their productivity growth accelerate from said pre-modern pace to industrialized speeds.

**Figure 1: Malthusian Economics**  
(Roser, 2020)

Note: This figure depicts the partial regression line for the effect of land productivity on income per capita in the year 1500 CE, while controlling for the influence of land productivity, absolute latitude, access to waterways and fixed continental effects. The X and Y axes plot the residuals from regressing land productivity and income per capita on the aforementioned covariates set.

Source: Quamrul Ashraf and Oded Galor (2011). This is an online visualization retrieved from OurWorldInData.org

The partial effect of land productivity on income per capita in 1500 CE



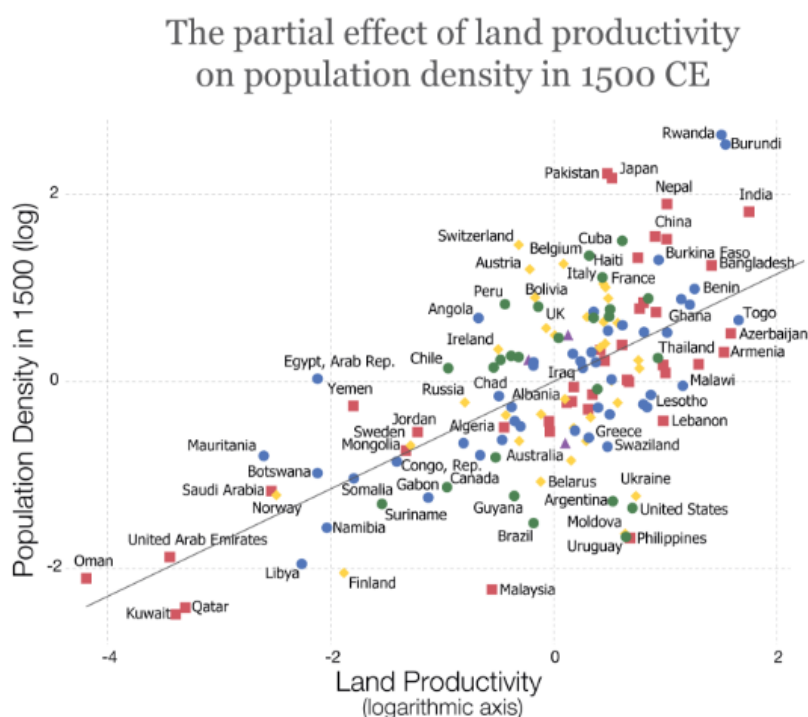
From a fundamental perspective, the sociological consequences of that transition are so radically disruptive for the standards of living of the peoples involved that we can even classify economies in two groups: Malthusian and post-Malthusian ones. No single event has had a larger impact on welfare than escaping such trap since the Neolithic Revolution. Once overcame the zero-sum framing in which every productivity increase was nullified by a parallel population spike, the per capita supply can finally be augmented, rather than perpetually kept at a level of complete immiseration. For most of both African and human history, Malthus was right. Following the Enlightened Industrial Revolution, not so much.

Figure 1 shows the economics of Malthusianism and Figure 2 its demographic dimension, for illustrating how the pre-modern world worked allows us grasp how far we have come. While the road ahead is nowhere easier, the rich literature of this prior, fundamental threshold enhances our response to the question of this paper: will Ethiopia beat these obstacles in a brand-new fashion, or rather follow the already known development paths?

**Figure 2: Malthusian Demographics**  
(Roser, 2020)

Note: This figure depicts the partial regression line for the effect of land productivity on income per capita in the year 1500 CE, while controlling for the influence of land productivity, absolute latitude, access to waterways and fixed continental effects. The X and Y axes plot the residuals from regressing land productivity and income per capita on the aforementioned covariates set.

Source: Quamrul Ashraf and Oded Galor (2011). This is an online visualization retrieved from OurWorldInData.org



That dichotomy has understandably aroused enough scholar interest to remain to this day as the core controversy within Economic History as an scientific area of academic study. So much so, that it has gained a name of its own: the Great Divergence (Pomeranz, 2000). Most of the literature drawn on the topic has shown rather little interest for Africa, though, rather emphasizing contrasts between Northwestern Europe and the four Asian empires (Ottomans and Safavids in the Middle East, Mughals in India and Ming-Qing in China). The reasons that kept Africa from catching up with those forerunners in the last centuries

go beyond the scope of this paper, but the fact that such economic divergence was perhaps the single most influential variable upon which the later Western dominance would be based remains absolutely central to understand the current situation of the region studied.

The era of Western imperialism unleashed by such economic edge perhaps was not unique to Africa, for other regions also suffered the foreign boot (China still regards the period as “the century of humiliation” -Kaufman, 2010), but it was uniquely oppressive for the Black continent. Certain institutions in the history of Western oppression have become to be regarded as specifically African inasmuch as hardly ever before in human history had any region suffered those horrors to that extent. While Ethiopia remained uncolonized, its surroundings were shaped by those terrible practices, such as a transcontinental slave trade of an unprecedented volume and unparalleled cases of genocide like the sadly famed one inflicted to the Belgian Congo by its infamous *owner*, his majesty Leopold II.

Although, as has been stated, the historical roots of the current misery of the continent exceed the scope of our work, for we do not intend to analyze its causes but rather its most feasible solutions, it is due highlighting the horrific impact of such period on the present conditions of most, if not all, African countries, nations, peoples and individuals. Besides the traps mentioned here, that tragic legacy still stands out as a major handicap for what is indeed the central matter of our work: the economic development of the region.

## 2.2 The Middle-Income Trap

For the sake of academic formality, we may define the object of this subsection as:

“A situation whereby a middle-income country is failing to transition to a high-income economy due to rising costs and declining competitiveness. Few countries successfully manage the transition (...). Many economies in Latin America and the Middle East regions have been stuck (...), “struggling to remain competitive as high-volume, low-cost producers in the face of rising wage costs” (World Bank 2010, 27)” (Nallari et al., 2011: 39).

Getting back to our conceptualization of the advantages of trade for all the parts involved, and, more precisely, to the specific effect of trade on welfare and wages in poorer nations, the Middle-Income Trap regards the institutional hurdle of improving the living standards once the leveraging of lower labor costs ceases to be sufficient to keep rising productivity (notice the importance of having alternatives to labor-intensive exports, as Ethiopia does).

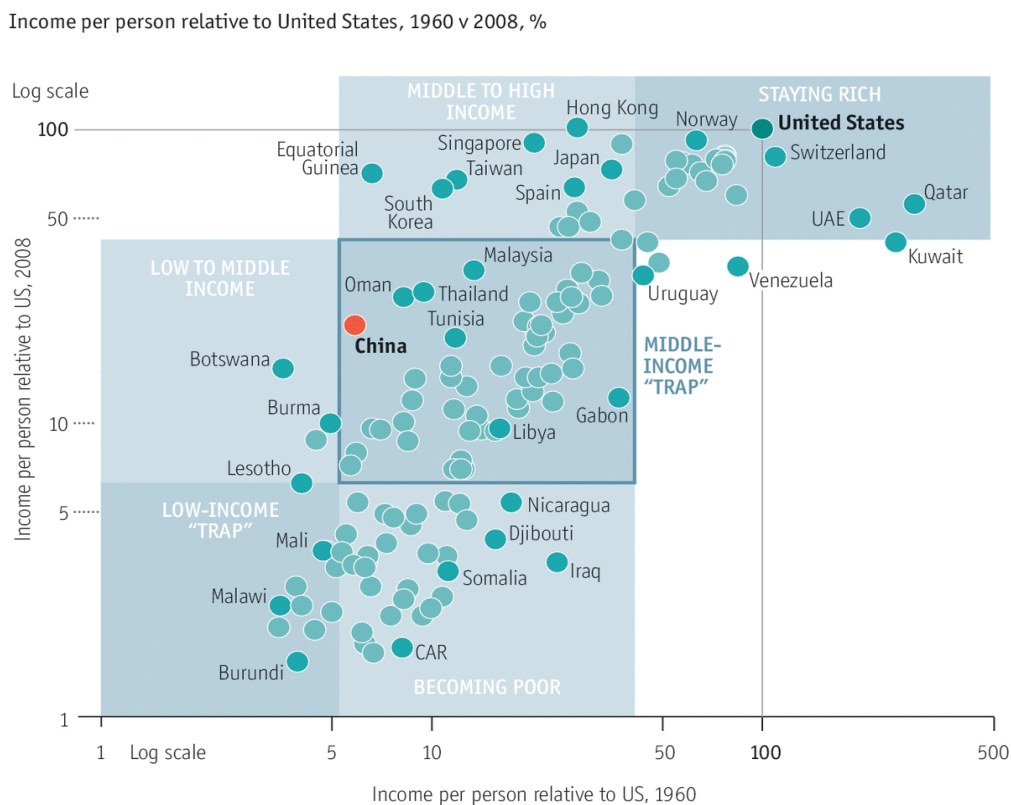
Assessing that going from a middle-income economy to a high income one can turn out to be harder than reaching the former from a state of misery may seem counterintuitive at a first glance, but the economic rationale beneath such statement is quite straightforward:

As Gerschenkron (1962) argued, economic backwardness does entail some advantages. Late developers can generate high returns by copying the forerunners, while saving the costly trial and error iteration needed to figure out what institutions or technologies, for instance, are more efficient. It is worth highlighting that this is one of the clearest cases of the so-called “free meals”, or situations in which an agent has access to something that benefits them at no cost for themselves -for others have paid the cost of that knowledge.

However, overtime, the low-hanging-fruit becomes scarcer. Once the endeavors expected to yield the highest returns are exhausted, further productivity increases start demanding a more nuanced institutional framework. While poorer countries can grow by copying the technologies and policies of proven success, middle income economies are already close enough to the production possibility frontier to need to push it in order to keep growing.

**Figure 3: A road with traps (The Economist, 2017)**

Note: This figure illustrates the struggle to catch up with the forerunners that stand closer to the production possibility frontier. Notice how some countries remain stuck in their relative positions after 50 years, mainly in the two areas that this section accounts for: the Malthusian Trap for the poorest, and the Middle-Income one for those at the center.



### **3. Analysis: The Ethiopian Edge**

Development is, at a fundamental level, a tale of overcoming the local, factor-based productive constraints of any given economy. Following a long, costly and particularly fragile process of trial and error, communities can figure out how to organize themselves and their relations with their environment with increasing efficiency, thus raising the per capita supply of valuable goods, services and leisure time. In this section, we will study (1b) what are the specific constraints of the Ethiopian case and (1a) how do they compare to the two major frameworks laid by the nations that have already managed to achieve material abundance. Then, we will see what advantages may Ethiopia leverage in order to vary said constraints, in terms of (2a) its environment and (2b) its new means to do so.

#### **3.1 Factor endowments**

Understanding the importance of this section will require to return to the fundamental classification aforementioned, which divided productive factors in labor, land and capital. While there are nuances worth underlining that differentiate the different kinds of each that we have now grouped beneath those labels, it is useful to keep in mind the categories. We stated in the part of our framework regarding trade that, as per David Ricardo (1817), competitive advantages come from comparative edges in efficiency and costs involving those three major groups. When leveraged, those advantages channel economic action towards a more efficient division of labor, which raises the per capita supply of goods and services. From that perspective, the win-win rationale defended when debunking the three myths about trade mentioned above is grounded on the superior welfare attained by all the parties involved. Such increase comes, therefore, from the productivity gained when all the agents are focused on the activities on which they have a comparative edge.

Since that advantage in the end responds to the prices of the productive factors involved, which answer to their relative abundance in each economy, their given endowments are key to understand the competitive advantages of countries and regions, like Africa. Once they are well identified, action from policy-makers, investors and charities can be redesigned to focus on leveraging them specifically, thus optimizing their own efforts. The aim of this section is, therefore, to identify the competitive advantages of Ethiopia by scrutinizing the factor endowments upon which they are based, informing the stakeholders involved in developing the economy of the country and our core question: does Ethiopia have the ingredients to pioneer a new recipe for achieving industrialization?



To grasp the importance that an affirmative answer to that question would have, though, we may need some context. In our first sub-section, thus, we re-examine the theoretical background of our case, explaining what the existing knowledge on the matter is, from a rather abstract standpoint. Afterwards, in the following one, we will contrast our insights with the actual socioeconomic reality of Ethiopia, going from theory to practice in seek for giving our core hypothesis (whether it has the ingredients to differentiate its model of industrialization from the ones that we are about to explain) enough empirical support.

### 3.1.1 Paths to industrialization

The existing literature of the field of development economics allows us to divide, *grosso modo*, the known industrializing paths in two models: the Western and the Eastern one.<sup>6</sup> We may also refer to them regarding the first and most notorious cases among each class. Namely, the British and the Japanese. There are certainly a myriad cases in-between them, as well as many failed experiments, but for the sake of simplicity we prefer to stick to that dichotomy. Far from resulting in an insufficiently nuanced approach, it helps to make the contrast with the Ethiopian case more intuitive and understandable, which we aim to do with the following paragraphs before going into further details in the next sub-section.

The Western Path leads inevitably to Northwestern Europe and the European offshores, a distinction that will acquire more importance when reviewing its political consequences. If we were to start by the beginning, however, we would have to look at 16<sup>th</sup> C. Britain, for it stood out as the first nation able to turn its own Golden Age into an industrialization.<sup>7</sup> We can use the rich and abundant literature on the topic to nuance our own work on the African case without engaging in the never ending controversy among economic historians over its causes. Most remarkably, the framing proposed by Robert Allen (2011) to tackle the question of the Great Divergence fits our emphasis on land, capital and labor.

In short, Allen argues that the British industrialization was ultimately based upon the comparatively higher cost of one central productive factor, labor, given its scarcity in the island relative to the other two (land, and mainly capital). That would, in his reasoning, provide a unique set of incentives to the flourishing innovator community of the time,

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<sup>6</sup> Otsuka and Sugihara (2019: 6). *Paths to the emerging State in Asia and Africa*. Springer Open.

<sup>7</sup> Note that Golden Ages or periods of material prosperity, technical and scientific advancements and artistic flourishing were far from unprecedented when London entered its own. The crucial difference is that this time, progress lasted. Far from ending like its predecessors (Renaissance Italy, Song China or the Abbasid Middle East, for instance), the British Golden Age never got to an end. In fact, it has lasted to present time.

prompting them to create labor-saving technologies that would end up rising productivity. Others, among whom J. Mokyr (2016) and D. McCloskey (2007) stand out, have argued that such argument is fundamentally unable to account for said flourishing itself, which it begs as a precondition, accusing Allen to hold a poor conceptualization of innovation. The existing data on 16<sup>th</sup> Century British inventors, far from showing a targeted and deliberate focus on labor savings, seems to point to a remarkably factor-blind process of signaling (Mokyr, 2009: 269-71). However, the factor costs approach has been proven on spot when accounting for the international spread of such technologies, if not for their creation itself (Allen, 2011). In short, the relative abundance of labor could explain with success why a labor-saving invention was adopted in some economies before then others.

That acknowledgment points to the actual importance of factor prices, for they shape the adoption of technologies that drive productivity. The history of global industrialization is thus one of institutional and technological transfer that eventually results in loosening the resource-based constraints of local economies, such as land, labor or capital shortages<sup>8</sup>. What concerns us here is whether the Ethiopian pattern of adoption could revolutionize the existing scholar knowledge on the matter by pioneering an industrializing process that could not possibly be classified within the two categories mentioned before, but would rather need one of its own. If that were the case, it would have to be due to its unique factor endowments, for the prices that shape said adoption processes are based upon them.

Once the theoretical foundation of our emphasis on factor endowments has been stated, we can account for what differentiates Ethiopia from previous experiences in that extent.<sup>9</sup> The scarcity of labor (and its subsequent relative expensiveness) is indeed among the main characteristics of the Western or British path, for neither Africa nor East Asia, as we will see next, had to cope with scarce labor. Rather the opposite, indeed, which makes the West unique on that end. It is also exceptional when it comes to capital abundance, for neither Asia nor Africa had comparable stocks of it when starting of their respective processes of industrialization. Broadly speaking, we could therefore characterize the Western path as the only one that is intensive in capital *and* not in labor, while the opposite would be true for Asia and Africa. The potential economically-rooted political impact of that distinctiveness will become increasingly clear as we advance into our argumentation.

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<sup>8</sup> We find useful to conceptualize technology in a broad sense, able to encompass from tools to ideas. In that view, both a pan and a recipe are forms of technology, which extends the notion to, i.e., institutions.

<sup>9</sup> For a more nuanced account on this conceptualization, see Otsuka and Sugihara (2019).

Interestingly, that leaves us with land. Which was generally scarce, albeit with nuances, in both the British archipelago and in the Japanese one. That parallelism could have had consequences beyond the realm of economics, as we might conjecture. For instance, if development can be defined as a process of overcoming productive constraints through productivity increases, productive factor flows could be to blame, partially at least, for the thalassocratic nature of the empires that arose when both islands were industrialized. As counterintuitive as it may sound, while the commercial means to exchange productive factors that Section 3.2 accounts for are largely pacific, violent relations can channel those flows across borders just as effectively. Trade dynamics can be mutually beneficial, but it is not set in stone that it must. In fact, there are many examples of exploitative patterns. It is worth noting that social realities rarely respond to a single variable, if ever, and that the political consequences of geographical differences lay beyond the scope of this piece, but such gaudy historical examples help to illustrate the relevance of factor endowments.

The Eastern model that Japan pioneered, on the other hand, is a somewhat different case, the parallelism regarding the -broadly speaking- relative scarcity of land notwithstanding. Most notably, while Britain had abundant capital and expensive labor, the opposite was true in the Nation of the Rising Sun. During the post-1945, the destruction unleashed by the II World War left Nippon with a shortage of savings and fixed capital, pushing further the plummeting of the local productivity, and, as a consequence, the wages followed suit. In brief, while the Western model focused its importing activities in land and labor (either peacefully or otherwise), for most if not all forms of capital were largely abundant there, the Eastern one put the emphasis on leveraging its edge on labor costs instead, importing any missing capital and natural resources from overseas partners (consensually or not).

Africa is a different picture altogether, with similarities and differences with both models. On the one hand, alike the East and unlike the West, labor is relatively abundant whereas capital is relatively scarce. On the other, far from both cases, there is also plenty of land. That leaves us with a mixed set of ingredients with which a new recipe may be crafted: Africa lacks capital, like Asia did, but it can trade it for natural resources, not just labor. Our reasoning till this point has been purely theoretical, and thus necessarily abstract. If we were to nuance that statement, we would have to descend to the more real, empirical world of data, specifying what do we mean when we use broad terms such as “land”. In the following part of this section we turn to a more empirical approach, which we believe will enrich the overall piece, making it much more useful for the stakeholders involved.

### 3.1.2 Ethiopian endowments

Let's take a look to the missing piece of the puzzle first: capital. The scarcity of savings is not just an Ethiopian malaise, but one that affects the entire developing world or Global South. Its capital stocks reflect how said scarcity is hampering development: with a GDP PPP of just 129 billion international dollars in 2013 (notice that by 2019 it had doubled), the public capital stock stood at 82 billion. The private one was even lower, 46 billion.<sup>10</sup> That compares poorly with most economies, both industrializing and post-industrial, i.e.:

**Table 1: Scarcity of capital**

*Sources: most recent figures per country (2013) as per,  
World Bank International Comparison Database (GDP per capita PPP)  
IMF Investment and Capital Stock Dataset, 2015 (capital stocks)  
United Nations 2019 Revision of World Population Prospects (populations)*

Country	GDP per capita	Capital Stock pc	As a % of GDPpc	Public CS per capita	Private CS per capita
<b>Ethiopia</b>	1,367	1,344.2	98.3%	864.2	480.0
<b>India</b>	5,252	6,820.2	129.9%	2,422.2	4,398.0
<b>China</b>	12,361	23,638.9	191.2%	14,753.1	8,885.8
<b>USA</b>	53,107	93,373.4	175.8%	28,901.9	64,471.5

With such context in mind, it becomes clear that developing the Ethiopian economy will require to import large amounts of foreign capital. Before studying how could that happen throughout Section 3.2, we ought to review what can Ethiopia offer in exchange. Which leads us to analyzing the two remaining productive factors, that are remarkably abundant in the African nation. They are, as we have stated along the previous part, labor and land.

In the following part of this section, therefore, we will be looking for comparative advantages grounded in such endowment categories that could potentially foster economic growth in Ethiopia. Within that framing, a pro-growth demographic variable, such as a talented and young population, would be understood as a 'demographic dividend', while one related to natural resources would rather be a 'geographic dividend' (which have to be watered down by mentioning the adverse incentives that could lead to an overdependence on exporting natural resources, also known as the 'resource curse').

<sup>10</sup> IMF Investment and Capital Stock Dataset (2015).

The advantageous qualities of the human capital of Ethiopia ought to be highlighted.<sup>11</sup> Currently, over 54 million people participate in the labor force, about half of the overall headcount, which recently surpassed 110 million. That is twice as much as just 25 years ago and half of what has been projected for 2050, for the country is still entering the second stage of its demographic transition, with the fertility rate that still remains at over 4.2 children per woman, down from the 1985 peak at 7.44 but still astonishingly high. That fact cannot be dissociated from the remarkably young profile of the average Ethiopian, who has just 17.9 years of age. Two thirds of the population are under 25 and about 51% are under the age of 15. Most of the global population growth of the present century is expected to come from Africa, and Ethiopia will account for a large part of it. While this *young and abundant* workforce could be the first example of the ‘demographic dividends’ we were looking for, every opportunity has its own caveats. On the one hand, the Ethiopian demographics do have advantages that may be expected to attract foreign investors (whose capital is greatly needed in the African nation) while easing aging issues like the ones faced by countries at the next (third) stage of the demographic transition. On the other one, that window may be too narrow, for the average age started to rise by 2005 while the institutions needed to develop such human capital optimally remained flawed. Ironically, labor could help to escape the Malthusian Trap for being young and abundant to then become an obstacle when facing the Middle-Income one for being poorly skilled. Educationally wise, albeit the recent decades of economic growth and institutional peace have had a positive effect, Ethiopia still falls notably behind most developing countries.<sup>12</sup> Its literacy rate by 2017 still stood at a mere 52% among adults, far below the 77% that countries at a comparable stage of development averaged one year before. School drop-out rates are also at worldwide record levels: only half of the enrolled children complete elementary education. 85% of university teachers lack doctoral degrees, which could account for the poor research performance of the country, ranking lower than other African countries in studies such as the Global Innovation Index. On top of all it, the country has a tradition of brain drain, dating back to the Marxist rule under the ‘Derg’ regime (1974-87), which resulted in a shocking 75% reduction of the skilled workforce. Even such a stark picture can be turned into yet another opportunity, though. The bigger the current flaws, the bigger the dividend yielded by attainable, entry-level improvements.

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<sup>11</sup> For the source of the figures mentioned in this paragraph, see United Nations (2019).

<sup>12</sup> For the source of the figures mentioned in this paragraph, see Trines-WENR (2018).

The ethnic diversity is just as noteworthy, with a myriad minorities participating in the demographics of the country.<sup>13</sup> The Oromo and the Amara are the most remarkable ones among the largest groups, for the two combined account for over 60% of the country. Interestingly enough, the current Ethiopian President, Abiy Ahmed Ali, has a bi-ethnic ancestry that comes mainly from said groups, which could alleviate some tribal tensions. Religiously, while the country hosts plenty of different cults, most of the population prefer to identify themselves as Orthodox Christians (44%), Muslims (34%) and other types of Christian churches (19%), accounting for about 97% of the overall Ethiopian population. Any current ethnocultural clashes will be reshaped as the remarkably late urbanization of the country unfolds, though. Only 20% of Ethiopia lives in cities, which not only gives it a comparative edge over those classified by the UN (2018) as Least developed, but also over the group regarded as “Pre-demographic dividend” (averaging 33 and 41% each).<sup>14</sup> Yet, that is set to change radically. According to the 2015 Ethiopia Urbanization Review, the urban population may be expected to triple by 2034, increasing its relative weight on the overall population by over 50% as soon as 2028. The first demographic dividend aforementioned, with the labor force expected to reach 82 million in the next ten years, up from a third of that amount fifteen years ago, will rely notably on urban job opportunities. The economic importance of its rural exodus can hardly be overstated: with only 15% of the national workforce, cities generate 40% of the GDP (World Bank, 2015). We can highlight, hence, some key examples of the different forms of the demographic dividend that the country has the chance to leverage: (1) its population is young, yielding a relatively large workforce and a rather small need for care services for retired workers, and (2) large, offering domestic economies of scale that may attract foreign investments; moreover, Ethiopia may turn the weaknesses of today into the strengths of tomorrow, for (3) its human capital is yet to be formed, offering large returns for foundational education improvements; (4) its population remains overwhelmingly rural, making the rural exodus a growth boost yet to be exploited. Those opportunities also pose risks, nevertheless: the ethno-religious diversity of the country has been a traditional source of conflict, the urban boom that the country is bound to experience comes with notable challenges, and the flaws of the education system could permanently diminish the productivity of the young Ethiopians of today, whom are bound to fill the most populous age brackets of tomorrow.

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<sup>13</sup> Unless quoted otherwise, for the source of the figures of this paragraph see CIA World Factbook (2019).

<sup>14</sup> Ethiopia ranks 182 out of 194 countries in terms of urbanization, as per Ibid.

All in all, labor can turn out to be a double-edged sword for the Ethiopian development. While it can well serve an industrial policy focused on attracting foreign investments to rebalance the domestic scarcity of capital, like it has characteristically done in the Asian model, it can also pose great challenges. Given the complexity of such a topic, which could well fill dozens of books in their entirety, our focus will remain on the broader picture. What concerns us are not so much the challenges related to such demographics, but to identify a certain, unique set of ingredients, albeit any nuances each may present.

The bigger picture that we are aiming to depict does not engage in discussing the hardness of the road ahead, but rather its uniqueness. And emphasizing such exceptionality could not possibly come from analyzing in detail *how* shall each ingredient be treated, but rather from investigating *whether* the available ones in our particular case study are sufficiently unique in themselves or when combined to craft a new recipe for industrialization. Indeed, so far, the Ethiopian demographics and the previously mentioned scarcity of capital *alone* are not particularly distinctive, *nor* would they become so throughout a further scrutiny. It is the whole that matters in our quest; the parts, not so much. Those endowments are of our interest only inasmuch as they belong to a mix that is unique enough to confirm our hypothesis, but focusing on it requires to account for the missing piece of the puzzle: land.

When it comes to what is often encompassed under that label, the African nation on which we focus also poses an interesting case study. It is worth highlighting that, just like scarce capital and an abundant workforce were endowments seen in previous experiences that could be embodied in the Asian model paradigm, land was largely missing in both the Eastern and the European industrializations. Far from being true for the Black continent, since the entire rest of the globe would have to be grouped together for a fair comparison.

The Ethiopian case in particular is no exception to that rule of thumb, and the next part of this subsection will verse on its most remarkable features on the land-related extent.<sup>15</sup> However, as was the case when we reviewed the main features of its human capital, our take will have to be necessarily generalist, for the ramifications of such a topic not only exceed the scope of our work but could also fill countless books on the matter. Our emphasis will be put (again and with the same aim of tackling our founding hypothesis over *whether or not* Ethiopia has the ingredients that could serve to craft a new recipe for achieving industrialization) on identifying the *what*, rather than proposing a specific *how*.

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<sup>15</sup> Until quoted otherwise, for the source of the following figures, see Dejene-FAO (2003).

Ethiopia is a geographically large country, which is remarkable in itself, with a land mass of over 112 million hectares. About two thirds of said territory is suitable for agriculture, although only 14% is now under cultivation (livestock grazing still takes about 50%), making the economies of scale of its underexploited land our first ‘geographic dividend’. However, overgrazing, water erosion and other factors have been pointed out as major causes of the staggering soil degradation that the country suffers. Environmental concerns have arisen due to the shrinking forest reserves of the African nation too, which links to the major impact that deforestation could have in the economy of a country whose energy supply relies on biomass fuel by over 95%, 77% of which is directly derived from wood.

Fortunately enough, the Ethiopian highlands endow the nation with vast water resources, being the source of many international rivers, some of them as renown as the Blue Nile. Currently, less than 1 per cent of the outstanding supply of water available in the country is being used, offering an enormous potential for irrigation (which estimated is estimated to be over 4 million hectares, 25 times more than the present-day usage) and hydropower. Such potential for a water-intense, thriving agricultural sector, particularly within the AfCFTA context that we account for in the following section, could enable Ethiopia to compete from a favorable standpoint to become one among of the largest food producers of a continental-size mass market expected to reach 2.4 billion people by 2050 (UN 2017). Similarly, that very same ‘geographic dividend’ based on its extraordinary water supply could also allow for a more environmentally sustainable mode of production, besides a cheaper energy production from renewable hydropower sources. The challenges involved in such a transition from the current *statu quo* are, nevertheless, not to be underestimated:

The reliance on agriculture is still excessive, accounting for as much as 43% of the gross domestic product, and diversifying the economy could make it more resilient to climate-related shocks, while making the country wealthier along the process. The underexploited natural resources of the country could help on this matter (and collect, moreover, much needed capital imports). While only low-quality mapping is available for most of the territory (indeed, around 26% remains insufficiently mapped), and the mining sector in Ethiopia is still at its infancy stage, its economic weight is already quite remarkable. The industry accounted for as much as accounting for 19% of the country exports in 2012 (compare to 26% for coffee, its largest export, being Ethiopia the top African producer).<sup>16</sup>

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<sup>16</sup> For the source of the figures quoted in this paragraph, see World Bank (2014).



Just like in real state, location is a big deal for trade. And, in the case of Ethiopia, location could hardly be more valuable: the country is strategically placed at the very crossroads of what is bound to become one of the most key hotspots for Afro-Eurasian commerce. Frankel and Romer (1999) used geography as a proxy for trade to measure its impact on real GDP per capita, making the distance amid countries a powerful predictor of growth. The rich body of literature supporting such connection is consistent (Durlauf et al., 2005). The positive effects on economic growth that such lever could generate may be regarded as well as a geographic dividend, which makes four so far and completes our present list.

Land-related factor endowments could therefore yield several opportunities for the Ethiopian economy in the form of ‘geographic dividends’ of different kinds, with a large potential to boost future productivity growth and diversify its infant industries. As seen with labor, the opportunities yielded by land entail associated risks that cannot be ignored, though. And they should be taken seriously in order to avoid missing the chance to profit from those levers. Natural wealth has often, as paradoxical as it may seem, created incentives for policy-makers that have hampered growth instead of boost it, accounting for the term ‘resource curse’. Neighboring nations like Angola or Congo have suffered it. Similarly, the development of Ethiopia should not come at the expense of its ecosystem.

We may remark, among the dividends yielded by said endowments, the most prominent:

- (1) Ethiopia has large masses of territory suitable for agriculture that remains unexploited, offering the chance of increasing the local production and yield a comparative scale-edge;
- (2) the energy mix of the country inefficiently relies on biomass, but the water resources could cheapen the prices and make the country a net exporter of clean, renewable energy;
- (3) the mining sector still constitutes a minor part of the local industry, but has a large potential for exporting endeavors that could gather the foreign capital the nation needs;
- (4) the strategic location of the country at the epicenter of the Afro-Eurasian commerce may be expected to yield the country a significant edge in terms of leveraging that trade.

On the whole, the African country does have a unique combination of labor and land that could lead to a model of industrialization differentiable from the established frameworks mentioned before, as we had hypothesized at the beginning of this piece, leaving the analysis of the role that factor flows are bound to have in that process for the next section. The opportunities those endowments offer come with risks, though, and any action taken upon them by the mentioned stakeholders may be advised to keep those concerns in mind.

### 3.2 Factor flows

Trade has always had a fundamental importance for development and industrialization, but, as we have hinted before, it does not necessarily have to be the only, nor even the main, mean of channeling cross-borders factor flows. It is worth noting, still, that both forms of exchange (some pacific, commercial and mutually beneficial; the others, violent, coercive and exploitative) answer ultimately to the given factor endowments of the agents involved, highlighting once again the importance of them, as we studied in Section 3.1.

For instance, in the Westernized world, Europe and its Offshore White Settlements (mainly the United States of America, New Zealand, Australia and Canada, albeit there were other cases too) traded productive factors mostly in answer to the boundaries set by their respective factor endowments, measured in terms of their own relative abundance. The Old World, i.e., had abundant -cheap- capital and scarce -expensive- resources. It thus went on, with its newly acquired technical capabilities, to gather more of the latter around the globe, either in the form of a trade for the former or under the threat of war. In the New one, in contrast, land was widely abundant sometimes, like in Australia or the North American colonies, with a size comparable to the entire European continent.<sup>17</sup> Labor was mostly scarce, though, for the first settler communities were relatively small. In order to attract the human capital they needed, all those young nations traded the land they had in excess for the workforce they lacked (often literally so: large portions of land and mining rights were offered to some of the luckiest newcomers). The immigrants did also follow a pattern set by said endowments, indeed, mainly moving from economies with labor surpluses (where low local wages would make the emigration premium larger).

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<sup>17</sup> That land surplus itself came from a violent conquest race over their respective neighboring territories and the indigenous communities that inhabited them. In that sense, this colonization of sizeable sets of land is only different from the Russian invasion of Siberia, the British-French take on Africa and, most curiously, the Japanese expansion over Asia inasmuch as these new nations never left the soil they conquered (which was rich in natural resources, moreover). Other concerns, such as strategic ones, surely played a role too, for that is not to say that such economic rationale was the only, nor even the most important, determining factor behind that parallelism. It is due highlighting, though, that there were economic incentives for the Western colonialism that were eventually met through the exploitation of said conquered territories.

Such political dimension is also worth mentioning for it contextualizes the African efforts to attract foreign capital through investments as a peaceful mean to compensate its own factor-based local constraints. Needless to say, a myriad other variables are also worth considering, and indeed a country that had used violent means to overcome those constraints in the past can turn its head to more peaceful ones when its context changes (as Japan arguably did when dropping its imperial ambitions after its defeat in the II World War). For what it is worth, though, we ought to mention that factor endowments may be at least partially responsible for some of the narratives that tried to legitimize colonialism, incentivizing communities to seek the factors that each lacked (being violence just as effective of a mean as trade to achieve that goal).

On the other hand, the process was not far different among the first industrializing Eastern nations -primarily Japan. Indeed, it was restrained by the same logic, letting factor endowments determine the economic and, to a controversial extent, political faith of the Asian countries involved. With the aim of overcoming their own local constraints, which were ultimately grounded in their available factors, the nation of the Rising Sun wisely leveraged its abundant labor to attract foreign investments. The focus of that production based upon capital imports was, paradoxically, exporting, for low purchasing power kept the domestic market unattractive at first, but as the technological transfer (in the broad sense mentioned above) unfolded, they masterly managed to transit from that low-wage economy to a highly innovative one, raising their life standards immensely along the way.

Africa, on a completely different shelter, faces a far more unusual scenario, with a much more favorable access to the global markets of the factor it still lacks the most: capital. The Black Continent does not only have access to an incomparably more advanced system of international capital flows, with strengthened global regulatory institutions and a simply wealthier world (with much more money and a far more advanced technology to trade internationally). It also has access to two unique sources of capital imports that were not available to neither Asia nor the West: namely, it receives capital inflows in the form of aid for development and migrant remittances. Both variables are boosted, moreover, by the recent introduction of the largest free trade area in the world, known as the AfCFTA and designed by the African Union itself. The size of the addressable market in all the involved nations have scaled up to a continental level, which will be increasingly remarkable as the population of Africa continues to spike along the course of the century. All three dimensions will be accounted for in this section, in two differentiated parts; one, regarding the institutional framework in which these flows are bound to take place; the other, regarding specifically the distinctive nature of the inflows that Ethiopia receives.

So far, we have seen why factor endowments have a crucial importance on the design of industrial policy and other actions meant to foster industrialization or profit from it. We have also reviewed what are the main endowments that make the Ethiopian case unique when compared to the most remarkable cases of the two established frameworks, namely 16<sup>th</sup> C. Britain and 20<sup>th</sup> C. Japan. The combination that allows the African country to stand out from said conventional categories comes mainly from a distinctive mix between labor and land dividends. This section puts the emphasis, to finalize our analysis, on the missing piece of the puzzle: capital scarcity and the distinctive means of Ethiopia to overcome it.

### 3.2.1 Institutional environment

This subpart has two differentiated points of focus: on the one hand, it accounts for the favorable global context that could potentially channel capital inflows to African nations such as Ethiopia at a pace that could far surpass the one seen in previous experiences of capital-imports-based industrializations in East Asia, most notably the 1950-1980 Japan. On the other hand, it also reviews the specifically African institutions that could foster said developments, with the African Continental Free Trade Area (AfCFTA) at their core.

The international economic order designed by the winners of the II World War has a quite complex architecture, encompassing a broad range of institutions that goes from the World Trade Organization (WTO) to the World Bank Group (WB), to the International Monetary Fund (IMF), including a myriad of other global and regional organs both within and beyond the United Nations (UN), besides countless non-profit and private initiatives. While studying it in detail exceeds, once again, the scope of this paper, we can focus on its effects on what concerns us here: its impact on cross-border productive factors flows. On that end, the different institutions that conform such a system have been unprecedentedly successful, managing to multiply the frequency and scope of trade by standardizing a set of commonly beneficial rules that allowed to leverage the proliferation of new technical means (since 1930, sea freight and air transport got 5 and 10 times cheaper -OECD, 2007). In perspective, regarding the impact on the evolution of the value of the total global exports, the last 60 years before the post-IIWW international economic order (1868-1938) only threw a 5-fold increase, relative to the pre-IWW figure, from 22.4% to 113.3% (1913=100).<sup>18</sup> That same amount of time yielded, once established the new order, an astonishing 33-fold increase (from 150% in 1950, relative to 1913, to 4,928% in 2010).<sup>18</sup>

While it is true that the absolute value is partially distorted by the immense increase in overall wealth and productivity seen after the IWW (which can hardly be dissociated from the new international order itself, though), the value of exported goods relative to the global Gross Domestic Product has also spiked, arguably thanks to the new system. By the end of the so-called “first wave of globalization”, just before the First World War, that merchandise export-to-GDP ratio topped at circa 14%. Which implied doubling the figures seen at the beginning of the 19<sup>th</sup> C., when the Industrial Revolution was unfolding. The new order ought to be credited, partially at the least, for boosting it to 26% by 2008.<sup>18</sup>

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<sup>18</sup> Relative to 1913 (Federico and Tena-Junguito, 2016); relative to GDP (Fouqin and Hugot – CEPII, 2016).

When it comes to foreign direct investment (FDI) specifically, nothing short of the capital inflow par excellence, the recent worldwide evolution of the metric is just as inspiring: From stagnating around 0.5% of the global GDP till the beginning of the 1990s, its weight has increased incredibly, topping at as much as 5.3% before the Financial Crisis of 2008.<sup>19</sup> While it has averaged around a 3% ever since, it is worth noting how remarkable those levels still are. In the specific case of Ethiopia, indeed, it has surpassed the 5.3% figure in three times in the past two decades, levels that even China, the capital importer par excellence, had only surpassed twice during its economic miracle, in 1993 and 1994. That number may be expected to remain robust with the recent introduction of the AfCFTA, additionally, for it will feasibly increase the attractiveness of the Ethiopian market by giving it preferential access to the entire African consumer pool, which is much larger than the domestic one and ranks in the billions. Such new institutional framework arrives, besides, by the time when non-rich to non-rich exporting flows have surpassed the rich to rich ones for the first time in recorded history, as developing-developing preferential trade agreements have become the overwhelming majority of all the treaties of its kind in force as testify Fouquin and Hugot (2016) and Figure B 1 of the WTO Trade Report (2011).

The crucial importance for development of the expanding scope of such flows has been, moreover, enhanced by the technological flourishing that has accompanied such period of prosperity, making foreign capital not only more available than ever before for nations like Ethiopia, but also more helpful, increasing productivity to an ever-expanding extent.

For instance, advanced computing tools have helped to lower the entrance barriers in industries reliant on complex manufacturing (Shih, 2018), allowing the newcomers to challenge the position of incumbents and leveraging what has been called “late mover advantage”. Which connects with the famous framework laid by Gerschenkron (1962) regarding the advantages of economic backwardness, which we already mentioned above, in terms of leapfrogging a costly process of trial and error. That is the price to pay for the innovative forerunners to stay at the edge of the technical frontier (whose discoveries can be leveraged by those, like Ethiopia, that seek to catch up after falling behind in the past).

All in all, we can conclude that the favorable factor endowments seen in the Section 3.1 can indeed be leveraged throughout a uniquely favorable global institutional order, in line with our prior hypothesis that Ethiopia could be standing at the center of a perfect storm.

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<sup>19</sup> Until quoted otherwise, for the source of the figures quoted in this paragraph, see World Bank (2019).

Not only has global trading as a whole become easier than ever, but cross-border capital flows in particular, the key to overcoming the factor-based constraints of the Ethiopian economy, have never been more frequent nor as abundant. Indeed, Ethiopia itself is already importing capital at a pace that has even become comparable to the one seen at the peak of the Chinese miracle. Besides, new technologies keep lowering the entrance barriers to complex industries, further magnifying the impact of such capital inflows on productivity growth. In the following and last part of this section we will review what distinctive sort of factor flows could put the African nation in an advantageous position when compared to other comparable industrializing processes within the Eastern model. In short, Ethiopia has access to a market of capital imports that has never been larger, nor better functioning, nor more promising, nor more impactful in actual industrializations.

### 3.2.2 Distinctive factor inflows

We have mentioned before that the two main means to channel factor exchanges across borders are trade and exploitation. The latter is violent, damaging for the weakest side and not necessarily willful, and could account for at least part of the economic incentives for the political trend of colonization that Western and Asian empires underwent overseas, having a role in providing the ingredients for developing own their industrialization. The former is normally peaceful, mutually beneficial and in most cases rather voluntary, and lays at the core of the capital-importing strategy behind the Asian industrializations. However, the interest of the Ethiopian case (among other African nations) for scholars and stakeholders comes from its uniqueness. Such distinction does not only arise from its mix of factor endowments or its favorable international context, but also from the access to two unique means to channel the capital imports it needs the most for industrializing itself. Namely, foreign aid for development and cash remittances from its own expatriates.

As a rather recent development within foreign policy, aid constitutes one of the most distinctive comparative advantages of those industrializing today over those who either transitioned to the modern economy throughout the 19<sup>th</sup> C. or did so after the II World War instead (as was the case of most Asian countries following the Japanese lead). In short, through its different forms<sup>20</sup>, it ultimately constitutes a new kind of capital influx, and, we argue, it ought to be taken just as seriously as its more conventional predecessors.

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<sup>20</sup> We will account for the category “total aid”, which stands for the sum of country programmable aid (CPA), humanitarian and food aid, divided by the total population size of a country, as per OECD (2018).

In that metric, Ethiopia still ranks among the highest net beneficiaries in the entire globe. Averaging around \$35 per capita in the past two decades (near 23 times more than China) and peaking at \$42.7 in 2009, it easily doubles the World average and frequently surpasses the figures of the rest of the African continent and even surpasses the ones of countries labelled as “fragile” and “extremely fragile”.<sup>21</sup> Given its population size, that is over USD 3.8 billion at said peak, in a country whose GDP (PPP) was as low as USD 81 billion that year.<sup>22</sup> In relative terms, that is as high as a 4.7%. Which is a shockingly large capital inflow when compared to, for instance, the total foreign direct investment (FDI) of around 3% averaged by both the World and Sub-Saharan Africa in the past 20 years.<sup>23</sup>

That is not the only factor inflow to which Ethiopia has a comparatively advantageous access when compared to prior industrializing experiences such as the ones encompassed under the ‘Eastern model’ label, as we mentioned at the beginning of the present section. We can define remittances as the net transfers in either cash or kind received by resident households from non-resident ones (most often, expatriate relatives working overseas). The Ethiopian diaspora has resulted in a notable source of capital imports for the country, with a community that could be as large as a 200,000 people in the United States alone.<sup>24</sup> As a share of the local GDP, their remittances have averaged over 1.5% in the past two decades, peaking at 3.23% in 2014.<sup>25</sup> Again, it is worth highlighting that in record years these two distinctive sources of factor inflows could account for up to 8% of the Ethiopian economy, an impressive figure that far exceeds even its own peak FDI levels, which already was comparatively superior to the inflows received by most developing nations.

All things considered; this last subsection contributes as well to our overall affirmative answer to the inquiry upon which this piece started. We had wondered whether African nations in general, and Ethiopia in particular, could possibly pioneer a new path to industrialization that could not be classified in any of the two established frameworks. Now we can assess that our case study has not only confirmed the availability of a unique combination of demographic and geographic dividends, but also the existence of a context and new inflows that could channel the main missing productive factor, capital, into the Ethiopian economy in ways unavailable for its predecessors and at an unparalleled pace.

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<sup>21</sup> OECD (2018): *States of Fragility*.

<sup>22</sup> World Bank (2013): *International Comparison Database*.

<sup>23</sup> World Bank (2019): *World Development Indicators*.

<sup>24</sup> Ogunwole et al. (2017).

<sup>25</sup> World Bank (2019): *World Development Indicators*.

## 4. Conclusions

Our central aim in this section is to harmonize the findings narrated in all the prior parts. The hypothesis laying at the core of our work remains the same: whether Ethiopia has the ingredients to possibly pioneer a new recipe for industrialization. Given that such a topic is sufficiently complex in itself, we have limited our work to identifying the *what*, in order to inform any stakeholders interested in testing the many possible forms of their own *how*. With that in mind, we have focused our analysis on the ingredients rather than the recipe, mainly accounting for (A) the role of factor endowments on industrializing processes and the uniqueness of the Ethiopian mix compared to the two historically central paradigms; (B) the role of cross-border factor flows on overcoming local constraints to productivity and the unprecedentedly favorable context and access to novel inflows of the country.

In Section 3.1 we studied the issue of factor endowments, researching their importance from a theoretical standpoint in the first subsection to then illustrate our point about the Ethiopian uniqueness with actual evidence. We found that the endowments of the country are indeed combined in a manner that differs from the usual ones, upon which the main conventional paradigms of industrial policy have been based. For instance, most notably:

- Ethiopia does have the endowments to pioneer its own path to industrialization. While sharing with the East the abundance of labor and scarcity of capital (both in stark contrast with the Western model), it has, on top of that, plenty of land. We regarded the main ways in which they could be leveraged to foster development as ‘dividends’. Within the labor category, we identified four (1) young population, (2) a large workforce, (3) potential for impactful-yet-entry-level improvements in education, and (4) an urbanization yield that is yet to be unfolded in its entirety. Regarding geography, we also highlighted four levers: (a) abundant arable land, (b) water resources (suitable for agriculture and cheap, clean energy generation) (c) mining (a highly productive, underexploited source of capital imports) and, last but not least, (d) a pricelessly advantageous location for Afro-Eurasian trade. Most importantly, these opportunities are not only remarkable for the efficiency that focusing on them would bring to the Ethiopian economy, but also because they can be leveraged to surpass its main factor-based constraint: capital scarcity. The further advantages that our case study has identified on that extent, regarding importing foreign capital (from direct investments to technology in a broad sense, from know-how to machinery), have been accounted for in the following part.



For a comprehensive understanding of how development works, the relevance of cross-border factor flows has to be taken into consideration. In all of their different fashions, for the peaceful ones (including those beyond commerce, although it remains the most notable) may be the most frequent nowadays, but that has not been the case historically. Section 3.2 explores the role they ought to play fostering industrialization, as well as the particularly advantageous conditions upon which the African country on which we focus can leverage them. It also reviews some of the key levers which, given its relative novelty, were largely unavailable during the industrializing experiences that set the classic paradigms of industrialization that our case could be bound to reinvent. We found that:

- Ethiopia does have an unprecedentedly favorable position to import foreign capital. In the first place, its context is uniquely favorable to do so, from both a global and regional perspective. The institutions that conform the post-1945 international order have successfully boosted the scope of cross-borders capital flows, of which the country is already benefiting to an extent that is comparable to the Chinese miracle on key metrics like FDI. On top of it, the new AfCFTA is bound to make scale the attractiveness of the Ethiopian market by giving access to its investors to a continent-wide consumer base, which is expected to reach 2.4 billion people. In the second place, remittances and international aid constitute two previously unavailable inflows that are already bringing to the Ethiopian economy enormous amounts of foreign capital. So much so, that their combined weight has far topped the per year direct foreign investment in the country during the last two decades. Furthermore, the impact of these and the more conventional sources of capital imports is amplified by the advantages of economic backwardness, which are in fact increasing as new technologies lower the entry barriers to manufacturing.

All things considered; Ethiopia can indeed pioneer a new model of industrialization. Its abundant land and labor impede to classify it within the traditional West-East dichotomy. Its context to import capital is more favorable than ever, having access to inflows that differ from the ones leveraged in the Asian model in both their scope and varied sources.

We can confirm, therefore, that the hypothesis stated at the beginning of our work can be answered affirmatively. Ethiopia does seem to stand at the epicenter of a perfect storm. We began wondering whether it had the ingredients to pioneer a new recipe for industrialization and, under the light of our research, we can affirm that to be the case.

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