



# Explaining Africa’s (Dis)advantage

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**Summary.** — Africa’s economic performance has been widely viewed with pessimism. In this paper, firm-level data for around 80 countries are used to examine formal firm performance. Without controls, manufacturing African firms perform significantly worse than firms in other regions. They have lower productivity levels and growth rates, export less, and have lower investment rates. Once geography, political competition, and the business environment are controlled for, formal African firms lead in productivity levels and growth. Africa’s conditional advantage is higher in low-tech than in high-tech manufacturing, and exists in manufacturing but not in services. The key factors explaining Africa’s disadvantage at the firm level are lack of infrastructure, access to finance, and political competition.  
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## 1. INTRODUCTION

In the 1960s, Africa’s economic growth was similar to South Asia (Collier & Gunning, 1999a). However, between 1970 and 2000, the average GDP per capita growth rate was only 0.5% per annum, and sub-Saharan Africa is now the poorest continent.<sup>1</sup> In the decade before the recent financial crisis, however, the continent experienced a resurgence in growth. Growth in GDP for the continent averaged 5.9% annually (World Economic Forum, 2009). Is this trend sustainable? How can Africa keep growing? What are the key policies that facilitate Africa’s economic performance?

This paper sheds light on these questions using micro data. We use recent surveys of the World Bank’s Enterprise Survey for more than 80 countries. We combine these surveys with other cross-country datasets on politics, macro policies, geography, and the business environment, to study the determinants of performance of formal manufacturing firms. Our goal is to explore the key factors behind Africa’s disadvantage, if any, relative to other regions.<sup>2</sup> We focus in particular on African firm performance relative to firms in countries from other continents with GDP per capita below 3000 US dollars. We look at a comprehensive set of firm performance outcomes, including static efficiency, dynamic efficiency, export shares, and investment rates.

Our paper adds to the literature explaining Africa’s economic performance (see Bigsten & Soderbom, 2006; Collier & Gunning, 1999a; Collier & Gunning, 1999b). There are many previous studies examining one aspect of firm performance (such as investment rates, sales growth, exports, or productivity), often using one or several African countries’ firm-level data. However, there is no study, as far as we know, that examines all these key determinants of African develop-

ment at the firm level, with both large African and non-African firm samples. We aim to be comprehensive in including potential explanatory variables: firm characteristics, geography, infrastructure, access to finance, political and institutional factors, and (other) aspects of the business environment (including labor flexibility, corruption, international competition, domestic competition, and crime).<sup>3</sup> In light of the limited financial and administrative capacity of reformers and policy makers—capacity that is especially constrained in Africa—it is important to identify the key constraints to growth (Hausman, Rodrik, & Velasco, 2005).

Our broad focus on firm performance thus differentiates our paper from the existing studies of African firms, which tend to focus on a single outcome at a time and miss important aspects of how African firms behave and perform. Without controls, we find that formal African manufacturing firms have significant disadvantages across all performance measures, including productivity, labor productivity growth, sales growth, investment rates, and export intensity. Yet if we control for infrastructure, access to finance, the political and business environment, African firms lead in productivity levels and

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growth rates. We interpret the positive premium for African firms, after controlling for the political and business environment, as suggesting that there is no inherent African disadvantage. Taken at face value, if one could adjust observable policy or environmental factors, African firms possess an intrinsic advantage. For export intensity and investment rates, the Africa dummy is insignificant. Whatever makes African firms lag behind can thus be explained by observable differences in a few key elements of the environment.

We then break down the differences between African and other manufacturing firms to identify which factors explain constraints on performance. Infrastructure and access to finance prove to be of paramount importance in explaining Africa's disadvantage relative to similar income countries. Party monopoly also plays an important role. The longer a single political party remains in power, the lower are firm productivity and sales growth rates. In contrast, many elements thought to be important for explaining African performance are found to matter less: geography, crime, domestic and international competition do not matter as much.

This paper also adds to the literature on the effects of the (broadly-defined) business environment. We obtain several novel findings. First, modern telecommunications development is of critical importance. Second, even relative to formal finance, trade credit plays an especially important role in developing countries. Third, political monopoly is negatively associated with productivity growth rates and firm expansion. Finally, different policies have distinct implications for structural change. Telecom development, for instance, is structure-neutral: it helps manufacturing and services about equally and facilitates both low- and high-tech manufacturing. In contrast, development of banking helps services more than manufacturing, and corruption hurts services more than manufacturing. Some tariff protection helps high tech manufacturing but not low-tech manufacturing. Party monopoly hurts manufacturing much more than services.

In each of the survey countries of the World Bank Enterprise Survey (WBES) included in this paper, firms of all sizes and ownership are covered for both manufacturing and services. The survey questions are broad, including detailed quantitative measures which allow us to infer firm performance such as labor productivity levels and growth rates, TFP, sales growth, investment rates, and export intensity. Moreover, the survey asks detailed questions, both subjective and objective, on the political, institutional, and business environment that a firm faces, such as infrastructure issues, regulatory burdens, corruption, crime, and access to finance. To produce comprehensive measures of the business environment, we supplement the WBES data with cross-country data on the political and business environment: telecommunications, infrastructure quality, the incidence of domestic conflicts, and political competition.

We address the potential endogeneity of the business environment in several ways.<sup>4</sup> First, we mainly rely on objective measures of the business environment. Subjective answers may be based on firms' performance directly, and may be determined by country-specific factors such as exposure to the media and development history. Second, we do not directly use firms' answers on the business environment. Instead, we rely on city-industry-size averages of firm answers to gauge the local business environment. This local measure is less subject to the reverse causality issue associated with firm-level answers, and may provide a better proxy for the actual business environment. Finally, to check for possible omitted variables, we control for additional local and country-level determinants of firm outcomes, and show that our key results

remain robust. However, with observational data, it remains true that endogeneity issues—especially in the context of a horse race between various alternative explanations—can never be ignored. This is especially true when many conventional instruments proposed for a particular variable (such as institutions) are often correlated with other channels in the residual of the performance equation (Bazzi & Clemens, 2010; Morck & Yeung, 2011). We thus resort to as many robustness checks as possible, and offer a coherent story to tie the various findings together (Rosenbaum, 2010). We offer a menu of facts and explanations, and we invite readers to offer alternative explanations for what we find here.

## 2. DATA AND MEASUREMENT

The main data sources for this paper are the World Bank's Enterprise Surveys (WBES) in around 80 countries. The WBES data are collected by the World Bank to benchmark the investment climate in developing countries across the world and to understand the determinants of firm performance and behavior. In each country the survey was based on the universe of eligible firms obtained from the country's statistical office with stratified random sampling with replacement, and the result is a representative sample of the non-agricultural private economy in the country.<sup>5</sup> Stratification was based on three criteria: the sector of activity, firm size, and geographic location.<sup>6</sup>

For each country in the sample, we use the most recent survey available. Consequently, this paper focuses on explaining cross-country differences in firm performance, but by controlling for industry effects we will focus on differences within specific industries. With our primary focus on the manufacturing sector, we will mainly use the manufacturing sample of around 12000 firms. The number of countries in sub-Saharan Africa is 32 (see the Appendix A for the list of the SSA countries).<sup>7</sup> Typically the stratified sampling yields 100 to 1000 firms per country.

The WBES includes questions on various aspects of the business environment, including infrastructure, regulation burdens, corruption, and access to finance. The availability of these indicators about the business environment allows us to simultaneously control for various aspects of the business environment. The survey has both objective and subjective measures of the business environment. In general we rely on objective measures to avoid endogeneity of firm responses. We avoid using the so-called subjective measures, which record a firm's perceived obstacles to doing business. Only for questions related to crime do we use the subjective measures due to its importance in less developed countries and the lack of alternative data sources.

For indicators of the business environment from WBES, we do not directly use individual answers because we believe they are endogenous. We thus use the local average of the business environment as a proxy for the local business environment (Aterido, Hallward-Driemeier, & Pages, *in press*; Dollar, Hallward-Driemeier, & Mengistae, 2005; Hallward-Driemeier, Wallsten, & Xu, 2006; Xu, 2011). In particular, we opt to rely on a city-industry-size cell as the basic unit for measuring the local business environment. In computing the mean for a firm, the observation for the firm itself is excluded to avoid endogeneity. The business environment has been shown to differ vastly across regions (Almeida & Carneiro, 2009; Hallward-Driemeier & Pritchett, 2010; Xu, 2011) so we allow for a city-specific dimension. The literature also suggests that firms of various sizes face different business environments. In

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