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International Competitiveness in Africa

Policy Implications in the Sub-Saharan Region

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With 81 Figures and 30 Tables

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To my late father and my mother,
To Hitoshi, Makoto and Naoko

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1 Introduction

The effects of international trade and foreign direct investment (FDI) on developing economies have always been controversial. From about the 1980s, however, the countries adopting open policies have tended to outperform those adopting closed policies. The former, essentially the economies of Asia and some countries of Latin America, have grown faster than the latter, the economies of sub-Saharan Africa. With the unstoppable spread of globalization and the supremacy of "open" policies over "closed" ones, the debate between "participating" and "not participating" in the world economy has been superseded by discussions on the best policy measures for expanding participation and enhancing the accrued welfare gains. The countries of sub-Saharan Africa have no choice but to take part in international trade and investment. Policies to strengthen international competitiveness are almost unanimously considered crucial means towards those ends.

A key way of making a country more competitive is to strengthen its international competitiveness in trade and investment. Competitiveness in international trade is defined, in the present analysis, as the ability of a country to produce and sell goods in the international market at a lower price than competitor countries. Competitiveness in international investment, on the other hand, is understood as the ability of a country to attract large inflows of foreign investment. Given that competitors also strive to increase their abilities to sell goods and attract, the study takes a dynamic approach, as opposed to a static approach, to comparative advantage.

This book examines two policies frequently used to enhance international competitiveness: the exchange rate policy and productivity policy. We explore the effectiveness of these policies in raising international competitiveness as assessed through two channels, namely, trade competitiveness and FDI competitiveness.

The book is structured as follows. Chapters 2 and 3 empirically analyze the trade-FDI and growth relationship in the countries of sub-Saharan Africa. The development of the new growth theory has led to a wide recognition of the potential power of international trade and FDI in enhancing growth. The analysis in Chap. 2 focuses on the relationship between international trade and economic growth. The analysis in Chap. 3

focuses on the relationship between FDI and economic growth. We use the standard time series technique, i.e. variance decomposition, to examine the problems in these chapters.

Chapters 4 and 5 examine policy measures with the potential to enhance trade by strengthening trade competitiveness. We focus specifically on exchange rate and productivity policies, delving into the effectiveness of each. The depreciation of a local currency can be expected to instantly lower the prices of a country's exports in foreign currency and thereby boost exports. At the same time, however, the depreciation might exert upward pressure on domestic inflation. If the export prices in a local currency rise as a result of this, the inflation might offset the expected effects of the exchange rate policy. In Chap. 4 we empirically investigate the exchange rate and inflation pass-through mechanism. Three techniques are applied in our investigation: a VAR (vector autoregression) or VEC (vector error correction)-based Granger causality test, an LA (lag augmented)-VAR-based causality test, and a CCF (cross correlation function)-approach-based causality test. Both causalities are tested, in mean and in variance. To directly inspect and compare the effectiveness of exchange rate policy and productivity policy in bringing about stronger trade competitiveness, Chap. 5 uses the "bounds" cointegration test to investigate how export prices relate to exchange rates and productivity over the long run.

Chapter 6 explores FDI competitiveness, or the ability of a country to attract foreign investment. Factors determining the inflows of FDI are investigated in order to seek out areas where policy measures can be implemented to improve the attractiveness of a country for foreign investors. Specifically, we use a panel data analysis to identify determinants of FDI and empirically analyze how those determinants relate to FDI inflow.

Having confirmed the importance and supremacy of productivity policy over exchange rate policy in the earlier chapters of the book, we try to find direct policy measures to enhance total factor productivity in Chap. 7. We use six determinants for empirical analysis, i.e. human capital, reallocation of production factors from low- to high-productivity sectors, agglomeration, demographic age structure, infrastructure development, and black market premiums. A panel causality test is used to empirically investigate these factors.

Trade deficits pose difficulties for sub-Saharan African countries. As economies grow, their demand for foreign goods grows in parallel and world trade benefits as a whole. Without a stable balance between exports and imports, however, a newly emerging trade deficit will tend to expand. Chapter 8 uses panel cointegration techniques to empirically analyze the sustainability of trade accounts.

Changes in an exchange rate affect a trade balance by changing the terms of trade. According to the Marshall-Lerner condition, deterioration in the terms of trade will improve a country's trade balance if the sum of the country's price elasticity of demand for exports and imports is greater than one in absolute value. Chapter 9 uses heterogeneous panel cointegration techniques to empirically examine the relationship between trade balance and terms of trade in sub-Saharan African countries.

According to the purchasing power parity (PPP) theory, the long-run equilibrium exchange rate of two currencies is the rate that equalizes the purchasing powers of the currencies. Over the long term, the exchange rate between the currencies shifts in accordance with the relative purchasing power of each. The simplicity and intuitive appeal of PPP has attracted many researchers and prompted many analyses of the theory. Chapter 10 uses heterogeneous panel cointegration techniques to empirically analyze whether the PPP theory holds true in sub-Saharan African countries.

This book closes with the concluding remarks in Chap. 11.

We hope that this work sheds light on the development of the countries of sub-Saharan Africa.

2 Trade and Economic Growth

2.1 Introduction

The trade and growth nexus has been a topic of intense debate among researchers as well as policymakers. For the former, findings from theoretical models and empirical investigations have led to heterogeneous, even diverging conclusions. For the latter, various and dissimilar policies have been tested and implemented across countries and across time. This chapter empirically analyzes the relationship between the foreign trade (openness) and economic growth for sub-Saharan African countries (Fig. 2.1).

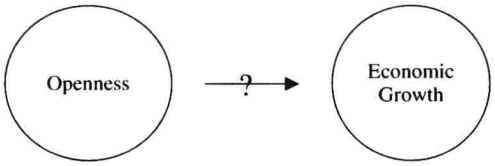

Fig. 2.1. Openness and economic growth

2.2 Literature Review

The literature on the trade and growth relationship can be classified into two groups: (i) studies that put forward the beneficial effects of trade on growth, what we qualify as "Pro's," and (ii) studies that emphasize either non-existent or adverse effects of trade on growth, what we call "Con's."

2.2.1 Pro's

In theoretical development, trade was portrayed as an important engine of growth from the time of Adam Smith up to the time of Ricardo and Solow. Trade leads to a better allocation of resources and allows a higher level of income. In the theoretical neoclassical growth model pioneered by Solow (1956), trade policy affects the allocation of resources between sectors

along the transitional path as an economy converges towards its steady state. Trade thus influences the steady state level of savings and capital accumulation. After reaching the steady state, however, trade no longer affects the equilibrium growth of an economy, a process solely determined by an exogenous factor – technological progress.

The growth effects of trade openness are made more explicit by the use of the new growth theory led by Romer (1986) and Lucas (1988). Within this framework, Grossman and Helpman (1991) establish that openness enhances economic growth through the following channels. Trade enlarges the available variety of intermediate goods and capital equipment, which can expand the productivity of the country's other resources. Trade permits developing countries to access the improved technology in developed countries, in the form of embodied capital goods. Trade makes it possible to intensify capacity utilization, a process that increases products produced and consumed. Openness offers a larger market for domestic producers, allowing them to operate at a minimum required scale and to reap benefits from increasing returns to scale.

Many empirical studies have assessed the positive effect of trade on growth. Krueger (1978) uses data from individual country studies to test two hypotheses: (1): more liberalized regimes result in higher rates of growth of exports; and (2) a more liberalized trade sector has a positive effect on aggregate growth. In the latter case, Krueger argues that there are two channels through which openness positively affects growth. First, there are direct effects that operate via dynamic advantages, including higher capacity utilization and more efficient investment projects. Second, there are indirect effects that work through exports: more open economies have faster growth of exports and these, in turn, result in faster economic growth.

Feder (1982) discovers, from a cross-sectional analysis of 31 semi-industrialized countries, that exports have positive externality effects on economic growth. Esfahani (1991) extends Feder's work by introducing the idea that apart from the externality effects, the contribution of exports to growth appears more substantial through its effect of reducing import shortages. Esfahani tests the robustness of his findings by running a cross-sectional analysis of a set of semi-industrialized countries. He concludes that the significant impact of exports on growth is the alleviation of scarcity of imports faced by those countries. When the second channel is taken into account, the coefficient of the externality effects drops rather remarkably.

Coe, Helpman and Hoffmaister (1997) show that trade allows developing countries to benefit from research conducted in developed countries. Imports of a larger variety of intermediate and capital goods, which

incorporate the outcome of research led in the developed trading partners, can increase the productivity of the developing economy. From a cross-sectional study of 77 developing countries, the work shows that R&D spillovers through trade are transmitted from 22 industrial countries to the former group.

Frankel and Romer (1996) address the controversy related to the endogeneity between trade variables and growth by introducing geographic factors to derive instrumental variables. They argue that those factors substantially determine conditions of trade and are unlikely to be directly correlated to growth. They conclude that trade has a significant positive effect on growth, and that the results from ordinary least squares underestimate that effect.

Edwards (1998) uses a data set of 93 countries to test the robustness of the impact of trade on growth by introducing nine measures of openness, first alternatively and then simultaneously. He concludes that each proxy for openness is correlated positively with economic growth and that the composite index from those proxies also enters with a positive coefficient in the growth regression.

Likewise, Wacziarg (2001) suggests a composite index of the usual measures. He studies the trade and growth relationship in a set of 57 countries. To deal with the direction of causality problem, he estimates the effects of the new openness indicator on six principal sources of economic growth: macroeconomic policy, government size, price distortion, factor accumulation, technology transfer, and foreign direct investment. He concludes that, depending on the specification, between 46% and 63% of the impact of trade openness on growth occurs through the accumulation of physical capital. He also argues that the analysis thoroughly captures the impact of trade on growth.

Most studies on the trade and growth relationship have employed the cross sectional approach. This approach has two main drawbacks, however. First, as pointed out by Harrison (1996), long-run averages are unsatisfactory measures of openness because they do not reflect the significant fluctuations in trade policy over time. Second, according to Jin (2000), cross-sectional analysis cannot distinguish the specific characteristics of each country. It thus might be misleading to generalize the effect of trade on openness in one economy to other economies, even when their characteristics are rather similar.

Harrison (1996) provides ways to address the measurement error and cross-sectional analysis controversy. He uses seven different measures to proxy the degree of openness of each country. The analysis covers the period 1960–1988 for 51 countries. A long-run average cross-sectional analysis and a cross-country time series panel analysis are both conducted. From the former method we find that (i) only 1 of the 7 openness indices enters the

growth regression with a positive and statistically significant coefficient, (ii) 3 of the 7 indices affect growth positively when average five-year data are analyzed, and (iii) 6 of the 7 indices become statistically significant when annual data are considered. Hence, the study accentuates the importance of a time-series approach in analyzing the trade and growth relationship.

Jin (2000) studies the short-run dynamics of trade openness and economic growth in six East Asian economies by analyzing time-series data for each country. He employs a five-variable VAR model incorporating GDP, money supply, government spending, foreign price, and openness. Impulse response functions (IRF) and variance decompositions (VDC) are computed to look at the effects of trade on growth. From the IRFs, he finds that the short-run output impacts of trade are positive but small and insignificant for five countries. From the VDCs, the forecast error variance of GDP explained by the trade openness innovation is also small and insignificant for the five countries. The effects of the shocks on government spending and foreign price are more substantial.

Hatemi and Irandoust (2001) study the direction of causality between export and productivity in five OECD countries. First, the Johansen method suggests the existence of one cointegrating vector between export and productivity. Then, the Granger causality test augmented with the error-correction term is carried out for each country. Although the results are rather disparate, causality generally runs from export to productivity. VDCs between export and total factor productivity (TFP) are also computed. The export innovations explain around 3% of the forecast error variance of TFP in France, 48% in Germany, 42% in Italy, 80% in Sweden, and 86% in the UK.

Van Den Berg (1996) addresses the causality controversy in six Latin American countries by comparing results from single equation and simultaneous equation models. He argues the following: first, that imports and exports both have positive and distinct effects on economic growth; second, that there is simultaneity between trade and growth; and finally, that the impacts of openness on growth are higher and more significant in the simultaneous equation model than in the single equation model.[1]

2.2.2 Con's

Theoretical skepticism about the effect of trade openness on income is based essentially on two premises, as put forward by Prebisch (1950) and

[1] However, Afxentiou and Serletis (2000) do not find any causal relationship between exports or imports and growth.

Singer (1950). First, incessant decreases in the international prices of raw materials and primary commodities would lead, without industrialization in developing countries, to more profound differences between developed and developing countries. Second, developing economies require short- or medium-term protection of their infant industries in order to industrialize.

Krugman (1994) and Rodrik (1995), amongst others, argue that outward policy has little to no effect on growth.

Rodriguez and Rodrik (1999) argue that effect of trade on growth cannot be unambiguously signed. The impact is positive if the resource allocation effects of trade policy promote sectors that generate more long-run growth, and negative otherwise.

Skepticism about the effect of trade on economic growth is stronger for the case of African economies. The structure of trade under which exports are concentrated on a few primary products and imports are constituted mostly by manufactured goods, renders those economies overly dependent and vulnerable. Because of the low price elasticity of African exports and the contained demand for primary products in the international market, African economies face continuously decreasing terms of trade.

Among the few empirical studies on the trade and growth relationship in Africa, Rodrik (1998) focuses on the role of trade and trade policy in achieving sustained long-term growth in sub-Saharan Africa. His first conclusion is that trade policy in sub-Saharan Africa works in much the same way it does elsewhere. Stringent trade restrictions have been important obstacles to exports in the past, and an easing of restrictions can be expected to significantly improve the trade performance in the region. Going against the thoughts mentioned above, however, his paper argues that there are no grounds to presume that Africa's divergent conditions, poor infrastructure, geography, or dependence on limited numbers of primary goods for export and manufactured goods for import make the region an exceptional case where exports remain unresponsive to prices or instruments of trade policy. As a second and major conclusion in his paper, Rodrik (1998) asserts that trade policy has only small and indirect effects on economic growth. An increase in the share of income exported was proven to not, in itself, contribute to growth in per-capita income. Besides, none of the trade policy indexes, the Sachs-Warner openness index, import taxes and black market premium entered the growth regression significantly. Rodrik (1998) showed that the role of trade policy in economic growth is largely auxiliary and of an enabling nature: sharply increased export taxation and import restrictions can suffocate economic activities in their beginnings, while an open trade policy will not, on its own, set an economy on a sustained path of growth.