



## Economic integration in Africa<sup>☆</sup>

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### ABSTRACT

There is a renewed interest in the debate on integration in Africa since the creation of the African Union in 2002. This study investigates the feasibility of a full-fledged economic union in Africa. Towards this goal, we examine the short- and long-term relationships among key macro-variables in eight largest African economies during the period from 1976 to 2005. We observe the existence of common long-term trends in real output, price level, private consumption, government consumption, investment and trade flows among these eight countries. In addition, we observe that there exists common cycles (short-term relationships) in real output, investment and trade flows for these countries. These two critical findings indicate the presence of macroeconomic interdependence among these countries which is a crucial factor for the success of integration in Africa led by these eight countries.

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## 1. Introduction

Macroeconomic interdependence among countries is defined as the, “sensitivity of economic behavior in one country to developments in another” (Tollison & Willet, 1973). The presence of this interdependence has been cited as a rationale for creation of Regional Trade Agreements (RTAs). Although the African continent does not have a long history with RTAs, its worth highlighting that the past decades have witnessed the creation of a number of such agreements<sup>1</sup> and we observe an increased level of economic cooperation among these countries.

African countries have decided to embark on a road that will, in the long-run, lead them to a full-fledged economic and political union. This objective is endorsed through the African Union's Constitutive Act which envisages the creation of ten organs including, among others, the establishment of financial Institutions—the African Central Bank, the African Monetary Fund and the African Investment Bank— and a body of elected representatives which will play the role of a parliament- the Pan-African Parliament.<sup>2</sup> Considering the pronounced political fragmentation of Africa, it is more likely that the main engine for this bold integration project ought to be the economy.

African countries are in the process to adopt policies that will create sustained economic growth to alleviate its problems of malnutrition, unemployment, poor health, and inefficient education systems. Moreover, increased economic integration will greatly decrease the potential risk for outbreak of war and political tension among countries. Schiff and Winters (1998) show that trade can bring about peace. However, in order to achieve a continent-wide economic union, careful and rigorous studies about

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<sup>1</sup> There are currently five active RTAs in Africa: The Economic and Monetary Community of Central Africa (CEMAC-EMCCA), the West African Economic and Monetary Union (UEMOA-WAEMU), the Southern African Development Community (SADC), the East African Community (EAC) and the Common Market for Eastern and Southern Africa (COMESA).

<sup>2</sup> From [http://www.africa-union.org/About\\_AU/AbConstitutive\\_Act.htm](http://www.africa-union.org/About_AU/AbConstitutive_Act.htm).

macroeconomic interdependence must be conducted to appraise the benefits and costs of forming an economic union.

The study of macroeconomic interdependence is not new. *Mundell (1961)* pioneered the optimal currency area theory (OCA) that suggests conditions that need to be met for two or more countries for a successful monetary union (see *Kenen, 1969; McKinnon, 1963*). The formation of the EU has offered the ideal framework for scholars to test the OCA theory (see *Bayoumi and Eichengreen, 1997b; Kim and Chow, 2003*). Macroeconomic interdependence has been crucial for the integration of financial markets as well (see *Kodres and Pritsker, 2002; Sharma and Wongbangpo, 2002*). *Selover (1999)* focused his interest on the international transmission of business cycles in Asia. He studied the co-movements of business cycles between Indonesia, Malaysia, Philippines, Singapore and Thailand and their key trading partners United States, Australia, Japan and the European Union and found supporting evidence for the existence of a single business cycle in these countries. *Selover (2004)* also examined the relationship between business cycles between Korea and Japan and found little impact of Japanese business cycles on Korean business cycles. *Cubadda (2001)* makes a general study of common cycles and common seasonal features of consumption and income using U.K. data while *Anderson and Moazzami (2003)* shed light on the long- and short-term movements of Canadian dollar exchange rate with respect to the US dollar. *Hernandez (2004)* examined the common cycles between the US and Mexican real GDP and found strong evidence of both common cycle and common trend between the Mexican and the US economies.

There exists a growing literature about the integration in African countries but the main emphasis of this research paradigm has been the integration of a specific region of Africa. *Carmignani (2004)* investigated economic integration in Eastern and Southern Africa, whereas *Debrun et al. (2002)* explored the perspectives for the creation of a monetary union in West Africa. We attempt to fill this gap by adopting a continent-wide perspective by examining eight largest economies in different parts of Africa. Not all African economies are alike and so is our choice of eight largest economies, some are resource rich (for example Nigeria, Algeria), while others are agriculture based (for example Kenya, Côte d'Ivoire). It would be very interesting to see whether this diverse group of economies is growing together. *Horvath and Grabowski (1997)* used the *Blanchard and Quah (1989)* methodology and investigated the symmetric/asymmetric shocks affecting Northern, Western, Eastern and Southern African countries.<sup>3</sup>

In this study, we investigate the feasibility of an economic union in the African continent. This we achieve by analyzing the intra-Africa trade and also the common trend and common cycles among six key macroeconomic variables in eight African countries which are economic leaders in their respective regions. These are two of the four main interdependence categories mentioned in *Frankel and Rose (1998)*. The macro-variables chosen are: price level (CPI), gross domestic product (GDP), private consumption, investment, government expenditures, and trade flows. We divide Africa into four regions and choose the two largest economies from each region, i.e., Egypt and Algeria from Northern Africa, Nigeria and Côte d'Ivoire from Western Africa, Kenya and Cameroon from Eastern and Central Africa, and South Africa and Angola from the Southern African region. Together, these eight countries (AFR-8, hereafter) out of fifty-three countries of Africa represent over 68%

of the continent's GDP and about 41% of her population in 2007.<sup>4</sup> These eight countries are leading economies and we believe that the possible integration of these would bring rapid integration of all of the 53 countries in Africa. In particular, we investigate short- and long-term relationships among eight consumer price levels, gross domestic products, consumption, investments, trade flows, and government expenditures following *Johansen (1988, 1991)*, *Johansen and Juselius (1990)* and *Vahid and Engle (1993)*. Our rationale for this choice is that, if these eight largest economies in the continent have common trends and common cycles among their macro-variables, then the smaller economies will catch up with them and so we can argue that the economic conditions are favorable for a future complete integration of the entire African continent.

This paper is organized as follows. A brief background of the eight African economies is given in Section 2. Section 3 discusses the common trends and common cycles analysis in view of the pre-conditions of the optimum currency area. Section 4 discusses the methodology, and data and data sources are discussed in Section 5. Results are presented in Section 6 and some concluding remarks are made in Section 7.

## 2. Economic background

African continent as a whole has achieved a 5.7% growth rate in 2007 although the growth has not been uniform across the continent. As a matter of fact, humanitarian crisis, high level of corruption, and the presence of social and political tensions continue to undermine the economic development in many parts of Africa. Nonetheless, the prospect for a continent-wide economic development remains favorable. Inflation reached an all-time low in 2006 at 7.5% despite high oil price. Moreover, economies have been implementing prudent and better fiscal and monetary policies in order to increase their chance for possible debt reduction by multinational organizations and bilateral partners.

The non-uniformity of economic performance in Africa makes it more realistic to approach the integration of Africa from a few large countries in different parts of Africa rather than from the fifty-three countries that comprise it. The four African regions, Northern, Western, Eastern and Central, and Southern considered in this study present a different picture as far as economic performance is concerned. As a matter of fact, the Central and Eastern regions have experienced the best performances in Africa with an increase in real GDP of 14.4 and 6.8%, respectively, in 2004. In this region, the two countries of interest in this study, namely Kenya and Cameroon, represent the two leading economies. Kenya has introduced structural reforms since the 1990s to diversify the economy, appeal to investors (both domestic and international) and reduce its dependency on the agriculture sector. The financial sector has a large number of micro-finance institutions that provide services to individuals and to small and medium-sized enterprises as well.

In the oil-rich northern Africa, Egypt and Algeria are the driving forces of the economy of the region. Growth prospects in this region are expected to remain strong due to the good health of the Egyptian and Algerian economies. Indeed, both Egypt and Algeria, respectively the second and third largest African economies, grew at 4.5% in 2005. Algeria's GDP per capita of about \$2450 was almost three times the continental average in 2004. This is higher than the GDP per capita of Egypt that hovered around \$1100 in the same period. In the Southern African region, Angola and South Africa

<sup>3</sup> Similar studies have been conducted for Western Europe (*Horvath and Sharma, 1998*), Latin America and the Caribbean (*Engle & Issler, 1993; Grabowski & Horvath, 1999; Hecq, 2005*) and the Indian Sub-continent (*Sharma and Horvath, 1997*).

<sup>4</sup> Source: World Economic Outlook, IMF, April 2008.

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