AGRODEP BULLETIN

AFRICAN GROWTH AND DEVELOPMENT POLICY (AGRODEP) MODELING CONSORTIUM

FOOD PRICE VOLATILITY

HAS VOLATILITY INCREASED IN SUB-SAHARAN AFRICA?

While global food prices remain below the levels seen during the food crisis of 2007-2009, the resurgence of price spikes both in 2010 and currently show that high food prices remain an urgent global issue. IFPRI research suggests that the world has experienced high price volatility in food markets during these periods. Both high prices and high price volatility are of particular concern for poor populations, such as the poor in Sub-Saharan Africa, who spend a large share of their budgets (often more than 60%) on food. But has food price volatility in Sub-Saharan Africa really increased in recent years?

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A new study by Nicholas Minot, Senior Research Fellow at IFPRI, aims to test the belief that food prices in Sub-Saharan Africa have become increasingly volatile during the last decade. *Food Price Volatility in Sub-Saharan Africa: Has It Really Increased?* focuses on the price of staple foods such as maize, rice, wheat, beans, bread, and cooking oil in Sub-Saharan Africa and measures price volatility using the standard deviation of proportional changes in price from one period to another. The study is based on two monthly price datasets. The first dataset covers 167 price series (the majority at the retail level) from 15 countries during January 2005 – March 2011. The second dataset covers 67 price series from 11 countries during January 2003 – December 2010.

The study provides several important results. First, it confirms that staple food prices in Sub-Saharan Africa are indeed more volatile than those of staple cereals (rice, maize, and wheat) in the international market. Volatility is lowest for bread, wheat, and cooking oil and

AGRODEP is a Modeling Consortium of African researchers living and working in Africa with research interests ranging from economic modeling to regional integration and development to climate change, gender, poverty, and inequality. There are currently 84 members from 21 countries; our members work at top research institutions and universities in their own countries as well as various government agencies and non-profit organizations.

The **benefits of being an AGRODEP member** include opportunities for research grants, free access to cutting-edge economic research tools, data, and training. Members also gain access and exposure to large global networks of economic researchers and experts. Click here to learn more.

highest for maize, cowpeas, and beans. Interestingly, tradable products such as rice, wheat, and cooking oil make up a majority of the products with relatively stable prices; on the other hand, non-tradable products experience the highest volatility. This is the case for cowpeas, maize, beans, and sorghum, the vast majority of which is produced and consumed domestically.

In addition to differing among products, price volatility differs among countries. For example, maize price volatility is significantly higher in Zimbabwe, Malawi, Zambia, and Chad. Similarly, prices vary between rural and urban areas - prices tend to be less volatile in large cities. The study also compares levels of volatility during 2003-2006 and 2007-2010 and finds variation within these periods as well. In 2007-2010, volatility was statistically higher for only 7 of the studied price series, not significantly different for 43 series, and actually lower for 17 series. For example, maize prices in Maputo were less volatile during 2007-2010, as were rice prices in Ndjamena and sorghum prices in Nouakchott. Aggregating the data by commodity, the study finds that price volatility during 2007-2010 was only higher than 2003-2006 for maize, and was actually lower for beans, millet, and rice.

It is important to note that this study examines the volatility of domestic prices, not international prices. Domestic price volatility in Sub-Saharan Africa is higher than international price volatility, which has also increased in the last decade. Thus, while the study shows that domestic and international price volatilities have started to converge, there remains a wide gap between the two. There remains the need to conduct further studies using data of higher or lower frequencies, as such studies could provide different results.

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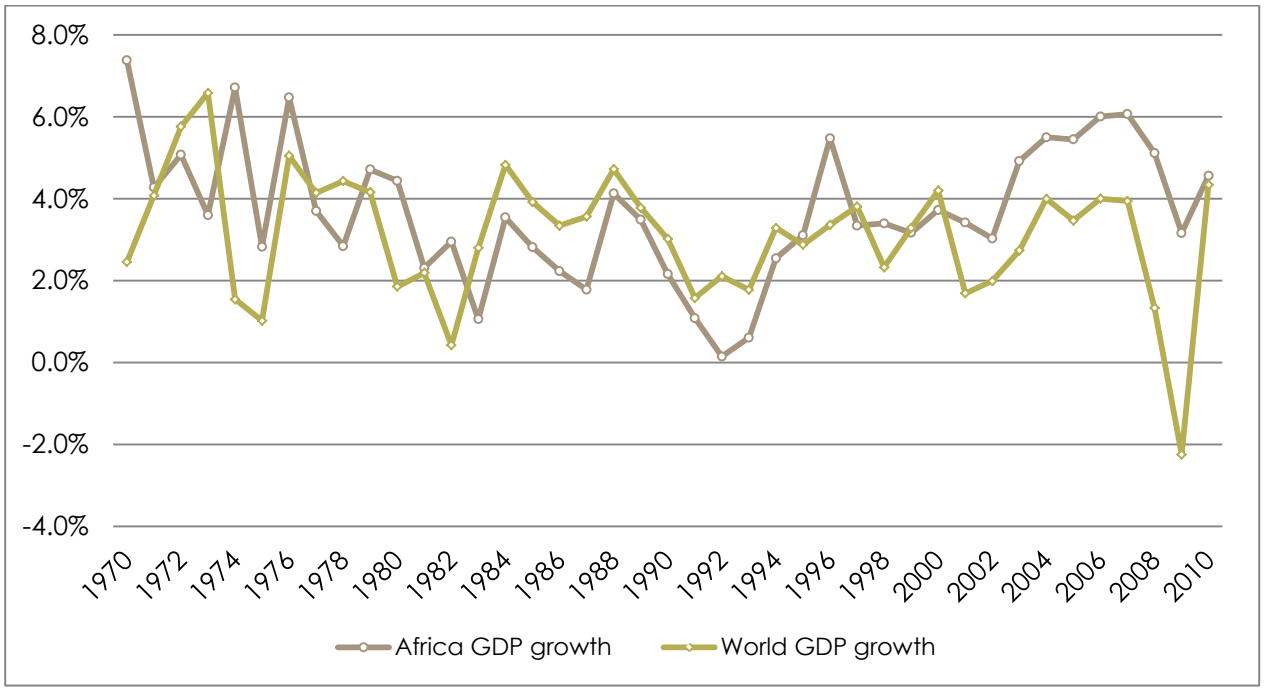
DATA

Recent statistics about Africa

Figure 1: GDP Growth of Africa and the World, 1970-2010 (US$ Constant 2000)

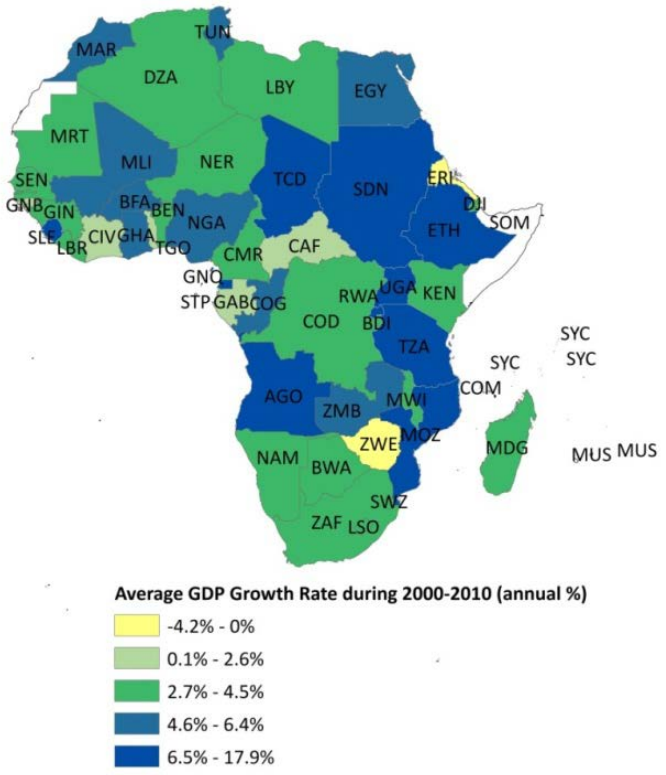


Data source: http://databank.worldbank.org/ddp/home.do?Step=12&id=4&CNO=1147

World Bank data for GDP growth in Africa shows that the economic growth of African countries as a whole declined dramatically from 7.4% in 1970 to 0.1% in 1992 (Figure 1). Economic growth on the continent was consistently lower than world growth levels during 1983-1994. However, after the early 1990s, African GDP growth started to increase steadily. During 1997-2002, Africa experienced average annual growth of 3.3%, while global average annual growth was at 2.9% during this period. This indicates that Africa made larger progress in terms of economic growth than the rest of world after the late 1990s. The annual economic growth of Africa rose steadily throughout the 2000s before beginning to drop in 2009.

Figure 2 shows the average GDP growth rates by country in Africa during 2000-2010. Countries with high average GDP growth rates are located mainly in Northeast Africa (8.3% in Ethiopia and 6.5% in Sudan) and Southern Africa (10.5% in Angola, 7.6% in Rwanda, and 7.3% in Mozambique). The gap of GDP growth rates among countries ranged from -4.2% to +17.9%. Only Zimbabwe and Eritrea experienced negative average GDP growth during this period.

Figure 2: Average GDP Growth Rate in Africa by Country during 2000-2010 (US$ Constant 2000)[1]



AGRODEP WORKING PAPER SERIES

First Working Paper Published

In June, AGRODEP published the first in its series of working papers. *Poverty, Growth, and Income Distribution in Kenya: A SAM Perspective*, by Wachira Rhoda Gakuru and Naomi Muthoni Mathenge, examines the relationship between demand-driven shocks and income generation, income distribution, and economic growth in the context of Kenya.

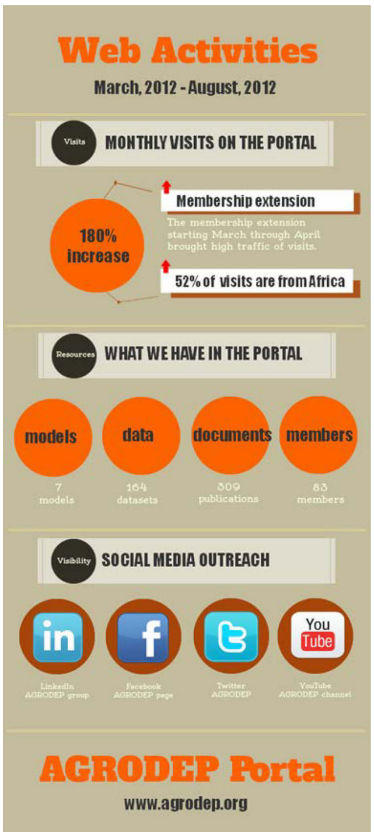
[1] Data for Somalia not available.

AGRODEP TRAININGS

2012 Training schedule

AGRODEP has continued its 2012 training program with the announcement of a new set of trainings to take place in the fall. Upcoming courses range from training on household surveys to CGE modeling, impact evaluation, and panel data econometrics. Members' attendance is limited to two (2) training courses per year. Participants will be selected based on their individual backgrounds and their motivations for applying to a specific course.

- **September 24-28**: *Panel Data Econometrics*: five days/Rembert de Blander, Université catholique de Louvain, Belgium.
- **October 29-31**: *Impact Evaluation & Analysis of Development Interventions*: three days/Tanguy Bernard, IFPRI, Senegal.
- **October 8-10**: *Household Surveys Data: Sampling and Processing*: three days/Carlo Azzarri & Melanie Bacou, IFPRI, USA.
- **December 3-5**: *GAMS-based Computable General Equilibrium Modeling (advanced)*: 3 days/Veronique Robichaud, PEP and University of Laval, Quebec.
- **December 17-19**: *Multicountry and Multisector General Equilibrium Analysis (MIRAGRODEP)*: Details to be delivered.



AGRODEP AT GTAP

Member Participation

Eight AGRODEP members selected for sponsorship from the Institute of Training and Technical Cooperation (ITTC) of the World Trade Organization (WTO) attended and presented their work at the Global Trade Analysis Project (GTAP) 15th Annual Conference on Global Economic Analysis held on June 27-29, 2012 in Geneva, Switzerland. The participation of an additional two members was partially financed through AGRODEP, bringing total AGRODEP member attendance to 10. Eight members presented in two organized sessions on "Regional Integration and Free Trade Agreements in Africa", organized by Antoine Bouet of AGRODEP and Mustapha Sadni Jallab of the WTO. The sessions were very successful, with around 15 people attending and participating in informative discussion. WTO support was the result of an agreement signed between IFPRI and the WTO in an effort to increase opportunities for AGRODEP members to participate in international events. AGRODEP will help facilitate the publication of the papers that the sponsored members presented at the GTAP conference.

WHAT IS AGRODEP?

The African Growth and Development Policy (AGRODEP) Modeling Consortium is an initiative led by the International Food Policy Research Institute (IFPRI). The goal of AGRODEP is to position African experts to take a leading role in both (1) the study of strategic development questions facing African countries as a group and (2) the broader agricultural growth and policy debate, which traditionally has been dominated by external actors and concerns.

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