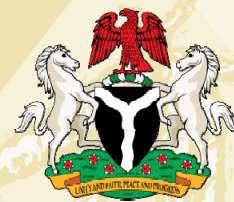




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Agricultural Investment for Growth and Poverty Reduction in Nigeria

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The Comprehensive Africa Agriculture Development Program (CAADP) includes a target of 6 percent annual agricultural growth, supported by the allocation of at least 10 percent of the national budget for agriculture. The Nigerian government has set a higher growth target of 10 percent annual agricultural growth in the medium term, since the country has already achieved the 6 percent target. To achieve such rapid agricultural growth in the next eight years (until 2017), improvements in factor productivity beyond land expansion may be needed, as well as increases in public spending to support the process. This brief assesses the amount, growth, and efficiency of public spending required for Nigeria to reach the agricultural growth target it has established in order to achieve the first Millennium Development Goal (MDG1) of poverty reduction.

Nigeria is unlikely to achieve MDG1 under its current growth path

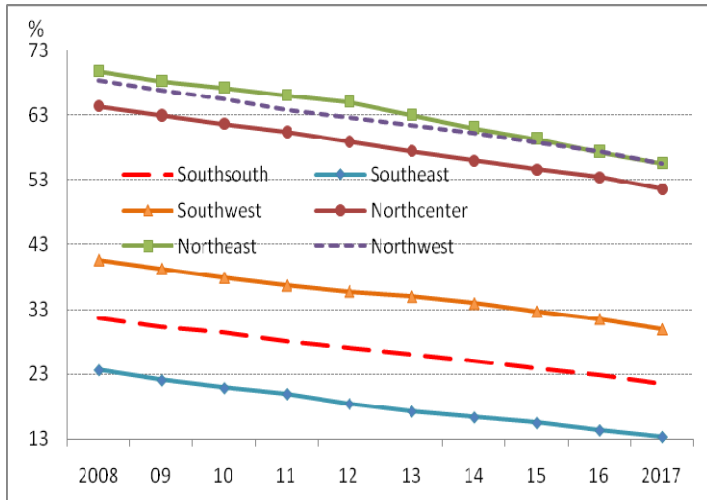
The first objective of the study was to ascertain the likelihood of Nigeria meeting the MDG1 target of halving poverty by 2015 under the current public expenditure and growth path (the “business as usual” or the baseline scenario). Four alternative investment scenarios for achieving Nigeria’s 10 percent annual agricultural growth target were also examined.

The baseline scenario uses the results of the Diao et al. (2009) Dynamic Computable General Equilibrium (DCGE) model, which indicate an annual growth of 5.7 percent for agricultural GDP and 6.5 percent for overall GDP during the next eight years (until 2017). Under this scenario, the 1996 national poverty rate of 65.6 will fall to 39.4 percent by 2017. Nevertheless, while the poverty rates in the three southern regions will fall significantly between 13.4 to 30.0 percent by 2017,

they will remain as high as 51.5 to 55.6 percent in the three northern regions (Figure 1). Thus, achieving the poverty reduction target of MDG1 by 2015--or 2017-- is unlikely.

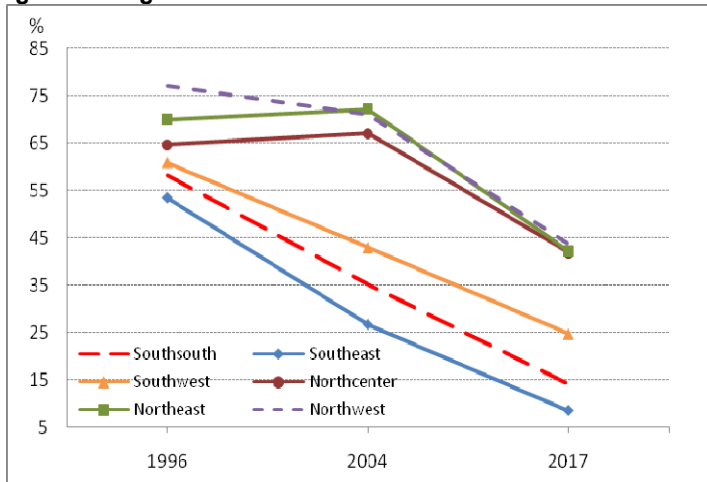
MDG1 becomes achievable if Nigeria meets its 10 percent annual agricultural growth target, supported by a 5.6 percent growth of total factor productivity (TFP) (instead of the current 2.3 percent in the baseline scenario). In this scenario, the national poverty rate falls to 30.8 percent by 2017, halving the 1996 poverty rate of 65.6 percent. Poverty in the three northern regions will be between 41.9 to 43.7 percent and between 8.5 and 24.7 percent in the southern regions (Figure 2).

Figure 1. Regional poverty rates in the baseline scenario, 2008-17



Diao et al. (2009)

Figure 2. Regional poverty rate with 10 percent annual agricultural growth



Diao et al. (2009)

Investment in agriculture should become more efficient

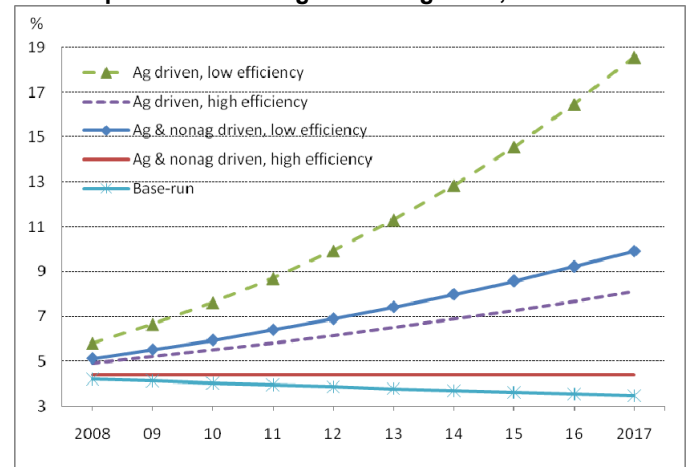
In the first investment scenario, productivity growth is assumed to be driven by growth in agricultural investment, and non-agricultural spending remains at the current trend. In this case, spending would need to grow by 23.8 percent per year over the next eight years to support the 10 percent agricultural growth target. The second investment scenario goes one step further and assumes that public agricultural investment becomes more

efficient, i.e., return to investment measured as growth in agriculture, will increase by 70 percent. In this situation, agricultural spending only needs to grow by 13.6 percent per year. With this improved spending efficiency, the share of agricultural expenditure in total spending will be 7.3 percent in 2015 and 8.1 percent in 2017 (Figure 3).

Translated into monetary terms, the analysis shows that under the agriculture driven-low efficiency spending scenario, the government will need to increase its investments in agriculture by ₦987 and ₦1,635 billion (in 2008 prices) by 2015 and 2017, respectively (Figure 4). When a more efficient spending pattern is assumed, additional agricultural spending will be ₦305 billion by 2015 and ₦448 billion by 2017.

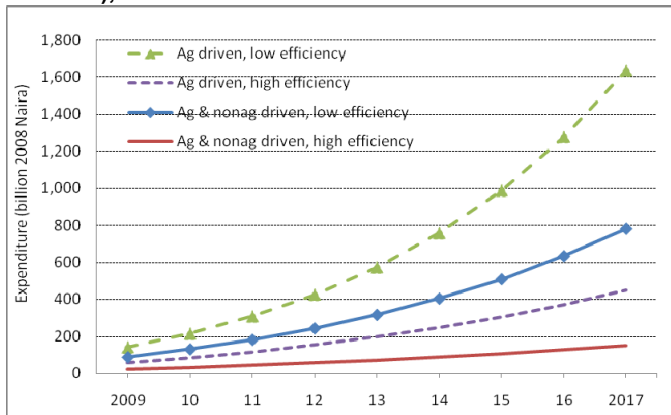
Thus, if the government can significantly improve its efficiency in agricultural investment by better allocating and managing public expenditure, much less spending would be required to reach its 10 percent annual agricultural growth target, and the share of agriculture spending in the total budget may be less than the CAADP 10 percent budget allocation target.

Figure 3: Share of agricultural spending in total spending with 10 percent annual agricultural growth, 2008-17



Diao et al. (2009)

Figure 4: Additional agricultural spending with 10 percent annual agricultural growth (Difference from the baseline scenario), 2008-17



Alpuerto et al. (2009)

Non-agriculture investments benefit the agricultural sector

In the first two investment scenarios, it is assumed that growth in non-agricultural spending is at the baseline level of 7.1 percent, and that the only driver supporting accelerated agricultural growth is additional agricultural spending.

However, to accelerate productivity-led agricultural growth, investments in both the agricultural and non-agricultural sectors are necessary. Non-agricultural investment can have a strong impact on agriculture by providing improved public goods such as roads and other infrastructure, education, and health. Such investments raise productivity for both physical and human capital in the broad economy, including the rural and agricultural economy.

The third and fourth investment scenarios consider this indirect effect of non-agricultural spending, with the annual growth in non-agricultural spending assumed to rise from 7.1 percent in the baseline to 8.5 percent. This lowers the required spending to reach Nigeria's 10 percent annual agricultural growth target. With both agricultural and non-agricultural investment taken into account, the spending needs to grow by 17.5 percent per year (instead of 23.8 percent with only agricultural spending) when agricultural spending efficiency is low, and 8.5 percent (instead of 13.6 percent) with

a high spending efficiency. Consequently, a relatively lower level of agricultural spending may be required over time.

With low spending efficiency and investment in both agriculture and non-agriculture, additional required agricultural spending will reach ₦509 and ₦782 billion by 2015 and 2017, respectively, instead of ₦987 and ₦1,635 with only agricultural investment (Figure 4). With high efficiency, required spending will be ₦108 by 2015 and ₦150 billion by 2017 (instead of ₦305 and ₦448). Thus, Nigeria can meet its 10 percent annual agricultural growth goal with agricultural spending accounting for 8.6 percent of total spending by 2015 and 9.9 percent of the national budget by 2017 (with low efficiency), and only 4.4 percent budget share with high spending efficiency (Figure 3).

Since non-agricultural spending accounts for a much larger share of the budget than agricultural spending, even with very rapid growth in the agricultural spending, spending on the non-agricultural economy will mostly drive the growth in total spending.

Conclusions

The results show that the required agricultural spending to support accelerated agricultural growth and an increased share of agricultural spending in the national budget depends critically on two important factors: (i) the efficiency of agricultural investment and (ii) the interaction of agriculture and non-agriculture in both broad economic activities and government investments.

Growth in the agricultural sector and rural economy depends on public investment in both agriculture and non-agriculture (such as in infrastructure, education, and health). Estimated results of required agricultural spending will be quite different when possible impacts of increased non-agricultural spending on agricultural growth are taken into account.

With current inefficient agricultural spending patterns, the required spending is extremely high (23.8 percent growth in spending per year) to reach Nigeria's 10 percent annual agricultural growth target. Improvements in investment efficiency through improved budgetary process, timely release of funds, greater transparency, and strengthened accountability of public spending in the sector can lower this rate to 13.6 percent per year and allow the government to save more than ₦4,300 billion in total over a period of 8 years (between 2009-2017) or more than ₦400 billion per year, on average (Figure 4).

Clearly, improving investment efficiency is the most important step for the Nigerian government to

effectively support accelerated agricultural growth to meet their national agriculture target and MDG1. If agricultural investment efficiency improves, required growth in both agricultural spending and total spending is expected to be significantly lower and the share of agriculture in the national budget can be less than the 10 percent CAADP requirement. Nigeria may then realistically reach its 10 percent annual agriculture growth goal in the next eight years and achieve the first MDG.

This brief is excerpted from the NSSP Background Paper No. 1, "Agricultural Investment for Growth and Poverty Reduction in Nigeria," NSSP Background Paper No. 2, "Options for Agricultural Growth for Poverty Reduction in Nigeria," and IFPRI Discussion Paper (forthcoming), "Agricultural growth and investment options for poverty reduction in Nigeria" by D. Xinshen, M. Nwafor, V. Alpuerto, K. Akramov, and S. Salau.

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