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Agriculture in African Development: A Review of Theories and Strategies*

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ABSTRACT

Agriculture is the largest sector in most sub-Saharan economies in terms of employment, and it plays an important role in supplying food and export earnings. Rural poverty rates remain high, and labor productivity is strikingly low. This paper asks how these factors shape the role of agriculture in African development strategies. Is agricultural growth a prerequisite for growth in other sectors? Or will urbanization and non-agricultural export markets ultimately be the forces that pull the rural economy into higher productivity? We argue that agricultural development strategies will vary widely because of heterogeneity across and within countries.

Keywords: economic growth, structural transformation, sub-Saharan Africa, rural development
JEL-Codes: O10, O13, O55, Q1, Q18

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1 Background:

Most people in sub-Saharan Africa live in rural areas (61.4%), and most Africans work in agriculture (57.3%), according to data from the UN Food and Agriculture Organization (FAOSTAT).¹ As the numbers make clear, agriculture remains the primary source of livelihoods for the majority of households in sub-Saharan Africa. Most of these households operate their own farms; relatively few people are employed as agricultural wage workers.² Farm size is extremely small in most African production settings, with almost all land holdings under 5 hectares (Eastwood et al., 2004, p. 8). In many countries, land holdings are even smaller. For instance, Malawi's 2006-07 National Census of Agriculture and Livestock found that only 8% of land holdings were 2 hectares or larger. In Rwanda's 2008 National Agricultural Survey, the comparable figure was 6% of holdings of 2 ha or more (National Institute of Statistics 2010, p. 36). Even in relatively land-abundant Mozambique, 95% of farm holdings were smaller than 4 ha in the 2009-10 agricultural census (Instituto Nacional de Estatística - Moçambique 2011, p. 13). By contrast, in the European Union's 27 member countries, average farm size in 2007 was 12.6 ha, with 30 percent of farms larger than 5 ha (Eurostat Farm Structure Survey 2007).³ Much higher average farm sizes prevailed in the United Kingdom (53.8 ha), France (52.1 ha), Germany (45.7 ha), Netherlands (25.0 ha), and Spain (23.9 ha).⁴ The US average in 2010 was 169 ha (US

¹ In the remainder of this paper, we use the word "African" as a short-hand synonym for sub-Saharan African. This paper does not explicitly consider North Africa or the Middle East, although many of the same strategic issues arise for that larger set of countries.

² Although data are not available for the entire region, labor force surveys and population census data for various years, reported in the ILO's LABORSTA database, suggest that only 0.6% of agricultural workers were employees in Ethiopia in 2005, as opposed to employers, own account workers, or unpaid family workers. Similarly low figures are reported for Botswana in 2008 (0.6%), Rwanda in 1996 (0.9%), and Madagascar in 2003 (1.0%). Slightly higher numbers were reported for Malawi in 1998 (5.1%) and South Africa in 2008 (6.1%).

³ Available online at: ec.europa.eu/agriculture/statistics/indicators/rd-2011/c4_en.pdf.

⁴ The EU average is pulled down by the very large number of small farms in Greece, Italy, and a number of Eastern European countries. A definitional problem lies behind these numbers: a farm is difficult to define, and agricultural ministries in many countries have political reasons for wanting to identify large numbers of farms. Both in the US and the EU, a farm is typically defined in economic terms, with a very low size threshold. This results in a highly skewed size distribution of farms, with very large

Department of Agriculture 2011, p. 9).

Small farm size and low productivity are not synonymous – at least when productivity is measured relative to land inputs. In many Asian developing countries, small farms achieve extremely high levels of productivity, measured in output per unit land. It is common for small farms to reach levels of output per unit of land that are higher than those attained on large farms – an issue that we will consider in greater detail below. But the small size of sub-Saharan farms does generally correspond to low levels of output *per worker*. This is largely an arithmetic consequence of the fact that most farms are operated by family labor, with hours worked per farm varying much less across countries than does land area per farm. Both micro data and aggregate data suggest that agricultural output per worker in sub-Saharan economies is very low. For instance, Gollin et al. (2014) show that labor productivity in agriculture is far lower than in non-agriculture for a large set of developing countries, including many sub-Saharan African countries. In a number of countries, agricultural output per worker appears to be only one-third to one-fourth the level of non-agriculture, even after adjusting for differences in human capital, hours worked, and other potential sources of measurement error. Taking an arithmetic average across 30 sub-Saharan African countries, Gollin et al. (2014) find that agricultural labor productivity seems to be only 28% of non-agricultural labor productivity. In an accounting sense, this low level of agricultural productivity explains a large part of the disparities in income between sub-Saharan countries and the world's rich countries. These countries are closer to rich country levels of productivity in non-agriculture than in agriculture, as documented by Caselli (2005), yet they have large fractions of their labor force employed in the low productivity sector.

The low absolute and relative productivity of sub-Saharan agriculture also shows up in

numbers of small farms accounting for extremely small fractions of total agricultural output or value. Thus, more than half of US crop farms are smaller than 20 ha; but these account for only 4 percent of cropland (Macdonald et al. 2013).

substantial differences in living standards between rural and urban households. Data from sub-Saharan countries show consistently that rural households are worse off than urban households in a variety of measures that reflect public amenities as well as private consumption (World Bank 2013). For instance, infant mortality rates in 40 sub-Saharan African countries are substantially higher in rural areas than urban areas (80 deaths per 1,000 live births in rural areas, compared to 65 in urban). Child stunting is also higher in rural areas. Measures of educational quality are higher for urban schools, and literacy attainment is also higher (although this reflects education demand as well as supply). Rural areas typically receive lower levels of public services and infrastructure than urban areas, due in part to higher per unit costs of service delivery in rural areas. This extends to “soft” infrastructure such as health care centres as well as “hard” infrastructure such as roads and electric grids. For instance, in sub-Saharan Africa, babies are more likely to be delivered at health centers in urban areas than in rural areas (78 percent compared with 43 percent in a sample of 28 sub-Saharan countries). Similarly, electrification rates in sub-Saharan Africa are far lower in rural areas than urban areas (World Bank 2013). In short, it is difficult to find measures of quality of life that are not worse in rural areas of Africa than in urban areas -- possibly one reason that rural-to-urban migration appears to be occurring at rapid rates.⁵

Agriculture’s central role in the economy, combined with its importance for food security and the persistence of low rural living standards make the agricultural sector a prominent focus for policy in developing countries. Many countries are concerned with moving the agricultural sector away from a subsistence orientation and towards higher productivity and market orientation.

Others are concerned with the sector’s capacity to absorb workers, in a policy environment where

⁵ The exact rate of rural-urban migration is an issue of considerable recent debate, and this paper offers no new data. Some scholars (e.g., Fox 2011) have suggested that natural rates of population growth may explain more of Africa’s urbanization than rural-urban migration. In this paper, we simply note that rural-urban migration has taken place, driven in part by perceived differences in living standards.

urban jobs in the formal sector are in short supply. Still others focus on supporting the agricultural sector to meet domestic food needs and to avert the kinds of economic and political pressures that have arisen during world food price spikes over the past decade.

This paper will address a number of issues related to agriculture's role in development strategies. We define a development strategy here as a set of *public policies* that are pursued by governments, international organizations, and perhaps also philanthropic organizations. Although private actors will play a critical role in the eventual effectiveness of a development strategy, this paper begins by assuming that the public sector sets the conditions for private investment. Farmers, processors, input suppliers, and a range of other private actors will respond to public policies with their own investment decisions, which will matter for the success of these public policies. In most of our discussion, we do not focus on the political economy through which development strategies are formulated or implemented, although we return to this issue at the end. We assume that public policies can and will respond to changing economic conditions.

The central question that this paper addresses is how (and how much) development strategies for sub-Saharan countries should focus on agriculture. We then address the subsequent question of *which* development strategies might make sense in an African context. Here we will argue that the extraordinary heterogeneity of African agricultural systems precludes any generic answer. Nevertheless, it is possible to move towards useful typologies and categories for which particular strategies may make sense.

Many previous authors have argued that African development strategies must focus on agriculture because the sector is large and important. We find this line of argument deeply unconvincing. Even if the sector is vast, and even if it employs large numbers of people, the critical question must be whether there are useful and feasible interventions that the public sector can take

to promote growth and equity through agriculture that are superior to other feasible interventions and policies. Others argue that agriculture matters as a supplier of food, an essential good; or that agricultural development is the key to reducing poverty and inequality. While we understand fully the arguments that support these ideas, we note again that the question for public policy is ultimately whether resources invested in agriculture achieve development objectives more cost effectively than the same resources invested elsewhere in the economy. If growth in agriculture is especially difficult to achieve, then a development strategy concentrated on agricultural investments may lead only to wasteful expenditures of resources.

This paper does not conclude that agriculture is *not* an appropriate sector for strategic investments, nor are we opposed in any sense to policies that would prioritize this sector. We simply argue that there is little evidence that would support (or oppose) the claim that public investments in agriculture will generate greater improvements in social welfare than investments in other sectors.

We will argue that it is helpful to distinguish between different motivations for agriculture-centered development strategies: growth, poverty reduction, food security, and other objectives. We will also argue that different development strategies will make sense in different contexts, with distinctions not based simply on agro-ecological potential. Previous papers have often sought to generalize by constructing typologies across countries; for example, Dercon (2009) suggests distinctions between resource-rich countries, landlocked countries, and coastal economies. In this paper, we argue that beyond between country differences, there are also important distinctions *within* countries based on a new understanding of the importance of spatial differentiation in rural economies and in the patterns of urbanization, among other things.

The remainder of this paper is organized as follows. In Section 2, we review the recent

literature – and some of its earlier antecedents – on agricultural development strategies, and we pay particular attention to the strength of the evidence base for a focus on agriculture. Section 3 considers the implications for policy makers confronted with the need to formulate agricultural policies. Section 4 discusses the importance of heterogeneity and considers how agricultural strategies might vary within and across countries. Section 5 concludes.

2 Literature Review: Agricultural in Development Strategies

In this section, we ask what recent research has to say about the role of agriculture in a development strategy for sub-Saharan Africa. Prioritising agriculture would imply specific policies and public investment measures to favour this sector. Three sets of conclusions, each based on specific parts of the literature can be distinguished. First, a macro literature, inspired by the classic Johnston and Mellor (1961) paper, concludes that economic policy ought to favour agriculture as a vehicle for starting growth in poor economies such as those of sub-Saharan Africa. Second, a literature focusing on poverty argues that agriculture-centered development strategies are the most effective way to reduce poverty. And third, a large micro development literature has highlighted market, institutional, and behavioural failures; this literature typically concludes that there are worthwhile interventions in agriculture that can deliver efficiency gains. Besides these three broad categories of literature, two more entry points for a discourse on the importance of an agricultural development strategy can be distinguished: one linked to the importance of smallholder-based development strategies, and a second that is based on issues related to food security and (to invoke a term currently in vogue) food sovereignty.

2.1 Macro impacts of agricultural growth

Johnston and Mellor (1961) were by no means the first to argue that agriculture had a central role in development.⁶ Their paper, however, provided a neat framework for thinking about consumption and production linkages from agriculture. The basic idea of the paper – never really formalized in mathematical terms – was that agricultural productivity growth would, in a closed economy, simultaneously lead to (a) higher rural incomes; (b) lower food prices in urban areas; (c) increased savings in rural areas, allowing for mobilization of capital for domestic industry; (d) expanded domestic markets for non-agricultural goods. An additional benefit was seen for the case of an open economy: by reducing food prices in urban areas, agricultural productivity gains would allow for nominal wages in manufacturing to remain low, making non-agricultural exports more competitive.

The Johnston-Mellor model provided a strong narrative and conceptual argument for agriculture's role in growth. The empirical roots of the paper were a (specific and highly contested) reading of historical experience, including from Europe and Japan, suggesting that growth success in these countries was closely linked to growth in agricultural productivity.⁷ Over the years, subsequent invocations of this theory became less nuanced, veering towards a more dramatic (and much less defensible) claim that all successful countries pass through a phase of fast agricultural growth as the engine for their growth process (e.g., Timmer 1988). This argument resonates still in policy narratives; for example the influential *World Development Report 2008* (World Bank 2007) highlighted the essential role of agriculture in early stages of development and

⁶ For example, Lewis (1954) features heavily in the original Johnston and Mellor (1961) article.

⁷ Among economic historians, the view that agricultural development was a precursor to industrialization has been challenged by numerous researchers, including R.C. Allen (2009) and Gregory Clark (1999). This point remains the subject of intense scholarly debate, and it is by no means a consensus view that an agricultural revolution was an essential precursor of the British/European the industrial revolution. Gardner and Tsakok (2007) conclude that the causal relationship between agricultural development and industrialization is too complex to be usefully unravelled.

made the case for a much stronger public policy focus on this sector from a growth perspective, not least in poor countries such as in sub-Saharan Africa.⁸

Theoretically, there is a solid basis for an argument that growth in agriculture is a key engine for growth, not least to start a growth process in pre-industrial economies. Beyond the more narrative approaches in the early literature, stylised macro models of growth with an explicit agricultural sector provide similarly strong predictions of the role of agricultural productivity growth in overall growth (e.g., Eswaran and Kotwal 1993; Echevarria 1997; Gollin, Parente and Rogerson 2002, 2004, 2007). These results tend to be linked to a set of key assumptions, including critically that these are closed economies that must meet their own food needs through domestic production. An additional assumption driving many of these models is that food consumption is subject to a minimum consumption requirement. Together, these two assumptions guarantee that a large fraction of resources will be tied to food production when countries have low agricultural productivity.⁹

The results of this rather stylized macro literature on structural transformation have been echoed in a literature that develops more empirically detailed macro models at the country level. This includes in particular a literature based on analysis of Computable General Equilibrium (CGE) models that have been constructed and calibrated to social accounting matrices from developing countries. The prototype model of this kind is Robinson et al. (1982), updated by

⁸ The World Development Report 2008 says, “The large share of agriculture in poorer economies suggests that strong growth in agriculture is critical for fostering overall economic growth” (World Bank 2007, p. 28). The WDR 2008 also makes the historical claim that “[h]igher agricultural productivity generating an agricultural surplus, taxed to finance industrial development, and enabling lower food prices underpinned early development in Western Europe, the United States, and Japan, and later in Taiwan, China, and the Republic of Korea.”

⁹ A related but alternative route has been models that drew inspiration from Lewis’ (1954) dual economy model. A notable version is Eswaran and Kotwal (1993) in which the strong assumptions of Lewis are dropped to favour integrated labour markets, but in which a subsistence constraint and a closed economy assumption drives similarly the central role of agriculture in development.

Lofgren et al. (2002) and used in various modified forms over the past decade by a number of researchers; e.g., Thurlow and van Seventer (2002), Dorosh and Haggblade (2003), Diao and Dorosh (2007), Pauw and Thurlow (2011), Dorosh and Thurlow (2012). A recent survey of this framework can be found in Diaz-Bonilla and Robinson (2010). .

These papers offer suggestive evidence that relatively large overall gains in economic output can be obtained from investing in agricultural productivity. For example, a notable recent example is McArthur and Sachs (2013), who use a CGE model for Uganda to argue for an aid-financed boost to agricultural productivity as an engine of growth and development. A similar argument is presented in Diao et al. (2010).

CGE models provide a bridge to empirical work, as they tend to be calibrated on large data sets that are intended to capture key relationships and interrelationships among actors in developing economies. The calibration can be difficult, since often the data are silent as to key parameters. These models can be highly sensitive to functional form assumptions (such as the substitution potential across inputs in production, or the substitutability of domestic goods with imports). An attraction of the CGE models is that they allow for extremely detailed characterization of model economies, and by construction they are forced to reproduce the data to which they are calibrated. As a result, they often appear to provide “exact” answers to policy simulations. This apparent verisimilitude is potentially misleading, though; the theoretical frameworks of CGE models are often difficult to validate, and their sensitivity to specific assumptions can be hard to judge.

A further limitation of CGE models as a class is that they struggle to represent changes in institutional quality or any interventions other than changes in taxes, prices, or technologies. Institutional changes – potentially very important in many developing country contexts – are not

easily modelled with this methodology. For instance, these models have difficulty addressing the impact of an improvement in land tenure security or the privatization of input supply systems in a developing country. In combination with the rigidities of the models, these limitations imply that for public policy guidance, these models must be used with caution.

To summarize, a recurring finding of the CGE models of African economies is that agricultural productivity growth generates positive impacts on overall growth – and often positive poverty impacts as well. The robustness of these results to changes in model structures and modelling strategies – as opposed to changes in parameter values – is unclear.

2.2 Agricultural growth spillovers to other sectors

A different literature has attempted to use empirical methods to estimate directly the impact of agricultural growth on overall economic development – measured by GDP growth or some other variable of interest. This literature has taken several different forms. An early literature on “agricultural multipliers” (e.g., Block and Timmer 1994) used single equation or multi-equation models to estimate the effects of agricultural growth on the overall economy, focusing on forward and backward linkages. This literature traces at least to Haggblade and Hazell (1989), Haggblade, Hammer and Hazell (1989), and Haggblade, Hazell and Brown (1989); more careful identification strategies are employed in Block (1999) and Delgado et al. (1998).

More recent efforts have included attempts to measure directly the relative importance of agriculture and non-agriculture on economic growth; or alternatively to measure the direction of causality linking the two sectors. For instance, Gemmell et al. (2000) uses time series data to explore the relative importance of growth from different sectors and the spillovers of growth across sectors. Tiffin and Irz (2006) conclude on the basis of Granger causality tests that

agricultural growth is the driving force.

The most relevant macro literature for our concerns is probably the narrow cluster of studies, based largely on data from India and China, that attempt to measure the impact of different public investments on growth and poverty reduction. This literature, including papers by Fan et al. (2000) and Fan et al. (2002), draws on district-level or state-level panel data to ask how growth and poverty reduction are correlated with different forms of government investment. The identification problems in this literature are severe. Government investments are not randomly allocated, and investments spill over across district lines and interact in complicated ways. In spite of the authors' efforts, the statistical estimation methods used to overcome these issues are methodologically problematic and leave many questions for a reasonably sceptical reader.

To sum up, the empirical challenges of this approach cannot be underestimated. The endemic endogeneity and simultaneity problems in relating growth in one sector to growth in other sectors are not convincingly addressed with any statistical technique employed. As such, one may not be fully convinced by the success of this type of research; it is difficult to treat the results as providing clear evidence for the size of multipliers and their general applicability.

An attractive feature of this literature is that it is fundamentally asking questions that are central to the formulation of development strategies. The literature does ask about the relevance and virtue of supporting agricultural growth as a central part of a development strategy. But what it cannot answer is whether supporting agriculture is superior to a development strategy focused on other sectors, even if it were to find larger multipliers from agricultural growth. The reason is that it ends up abstracting from the costs and difficulties of boosting agricultural productivity growth. These studies effectively treat agricultural productivity growth or output growth as exogenous and look for responses in the rest of the economy. But the policy maker cares deeply about the

endogeneity of productivity growth. How effective are policy tools in stimulating agricultural growth? Are they more or less effective than the tools available for boosting growth in other sectors? Even if, at a given stage of development, growth in agriculture has a larger economy-wide growth impact than growth in manufacturing, it is not clear which approach will be most cost effective. With appropriate cost-benefit analysis, it may still be the case that scarce resources are better allocated to non-agricultural growth. In any case, given the low relative productivity of agriculture in many economies (as in Gollin et al. 2014), it would be surprising if in all circumstances it is strategically optimal to invest public resources in the low productivity sector to stimulate growth. This branch of the macro-agriculture literature cannot address this question satisfactorily.

2.3 Agricultural growth impacts on poverty

A related empirical literature has focused on an “agriculture first” argument due not so much to its impact on growth but rather out of a desire to ask which sector delivers poverty reduction most effectively. The general theoretical argument has been that stimulating growth in agriculture is key, because of its effects on overall economic growth and because many poor people derive their incomes from agriculture. An indirect effect is that agricultural growth drives reductions in the price of food, with particular benefits for the poor. As a result, the argument holds that agricultural growth has superior impacts on poverty reduction, nutrition, and/or food security, compared to growth in other sectors. This viewpoint embeds some strong and internally consistent arguments, but they still need to be dealt carefully.

One supporting point is the sheer size of the agricultural sector. Since it is one of the largest sectors, and since it is also a large employer of the poor, growth in agriculture obviously will have

positive impacts on those who work in the sector – including many poor people. Furthermore, there are good reasons to believe that agriculture uses labour of the poor intensively, so that much of the gains from growth may well be accruing to the poor. Finally, agriculture is the sector producing food, which comprises a disproportionate share of the consumption basket of the poor. Taken together, these factors suggest that direct impacts of growth in agriculture on national poverty are likely to be substantial and positive.

Efforts to estimate the relationship between poverty and growth in different sectors have followed a number of different strategies. Some authors have sought to base their analyses on econometric approaches, with varying strategies for addressing the endogeneity and simultaneity problems that are pervasive. Other approaches are grounded in modelling exercises, including many CGE models that distinguish among several classes of consumers. Papers referred to above such as McArthur and Sachs (2013), or Diao et al. (2010) as well as Stifel and Thorbecke (2003) are examples.

The literature on growth-poverty elasticities can be traced at least to Datt and Ravallion (1996, 2002). It is also related to the multiplier work alluded to above, which links national or sub-national poverty rates to growth in agriculture. The empirical approach here involves regressing poverty measures (or poverty reduction) on a number of right-hand variables including growth rates in different sectors.

For example Chen and Ravallion (2007) find that growth in agriculture has four times larger poverty impacts in China than growth in non-agriculture. Ligon and Sadoulet (2008) find in pooled time series and cross-section data across countries that that growth in agriculture matters more for poorer households than for richer, and the reverse is true for non-agricultural growth. Christiaensen et al. (2012) more recently investigated the same question for sub-Saharan Africa

and reported lower but still substantial impacts. Using data from recent decades, these authors find that growth in agriculture offered two to three times larger poverty reduction impacts than growth in non-agriculture. They also find substantial heterogeneity in this impact, related to such country characteristics as the role of natural resources in the economy and initial conditions. Overall, the relatively strong poverty impact from growth in agriculture seems to be a fairly robust feature of the data (and in line with intuition).

Even so, there is the same problem that arises in the case of the agriculture-growth relationship: the strength of the agriculture-poverty elasticity does not necessarily imply that a development strategy ought to favour agricultural investments. It remains to be demonstrated whether agricultural growth can be achieved in a cost-effective manner, relative to growth in non-agricultural sectors.

Indeed, the sheer size of the agricultural sector factors into cost considerations for development strategies just as it does on the benefit side. Because the agriculture sector is so large, it may prove relatively difficult and expensive to generate growth in the sector. With a small manufacturing sector, it may be relatively easy – and perhaps also relatively inexpensive -- to generate a given amount of growth through well-placed public investment. For a much larger agricultural sector, the corresponding quantity of investment needed to achieve the same amount of growth may be very large. This may not matter if agricultural production increases can be generated with a new technology (e.g., a seed variety) or through changes in incentives (e.g., liberalization of output markets that increase producer prices). But for infrastructure investments or public services aimed at agriculture, the cost of reaching a very large and geographically diffuse target population can be very high. In other words, the sheer size of the agriculture sector is both an advantage and a disadvantage in terms of the sector's effectiveness in achieving poverty

reductions.

2.4 Micro development approaches to agriculture

In recent years, development economics has shifted away from an emphasis on grand “development strategies” and has moved towards a focus on smaller-scale interventions, such as project-level efforts to fix market failures or address problems of poverty. What lessons does this literature offer for development strategy at a broader scale?

One recurring strand in this literature has been the pervasiveness of market failures in (for example) markets for labour, land, credit, and risk. An early summary of this work is reflected in the standard development textbooks by Ray (1998) or Bardhan and Udry (1999). A second strand has focused on institutional failures – such as the absence of property rights. (For a review, see Pande and Udry 2005). Both these strands drew inspiration in some fashion from Schultz (1964) and his focus on “poor but efficient” farmers. The central idea is that market and institutional failures force farmers to make decisions that are “constrained efficient” but sub-optimal.

A third strand of the micro development literature, dating to the past fifteen years or so, has focused on behavioural anomalies, inspired by the emerging literature from decision science behavioural economics (Kahneman 2003). This literature has questioned the ability of farmers to achieve efficient or optimal outcomes due to problems in decision-making ability (see for example, Duflo 2006). The interest in behavioural explanations of rural underdevelopment has coincided with the emergence of randomized controlled trials (RCTs) as a favoured research method. The underlying view articulated by some leading practitioners is that development strategies should progress through successive evaluations of the impact of specific, carefully designed interventions. The resulting experimental data offer the scope for both learning and

acting (Banerjee and Duflo, 2010).

The behavioural and experimental approaches are largely agnostic as to whether development strategies should favour agriculture over other sectors, or smallholders relative to other farmers. If anything, this literature shies away from an appeal to grand-scale prioritising of sectors. A development strategy, seen from this perspective, would consist of a portfolio of project-level interventions that can be shown to deliver value for money. The underlying intellectual or theoretical coherence of the portfolio is less important than its performance.

The behavioural and experimental literatures in micro development have identified numerous areas in agriculture where there appear to be opportunities for effective public action: e.g., with “nudges” to use fertilizer (Duflo et al, 2011); with information about market opportunities (Jensen, 2007; Goyal, 2010); perhaps with respect to the take-up of weather index insurance (Karlan et al. 2012). But there are also numerous studies that find effective interventions outside of agriculture. It would not be easy to add up the results from this literature and to pass judgment on whether or not agriculture-oriented project portfolios dominate other mixtures of interventions. Certainly there is no reason to suspect that only agriculture offers useful opportunities for development interventions.

In recent years, the empirical micro-development literature definitely has increased the bar on rigour of its approach. But the extensive impact assessment literature on agricultural development interventions – and the far larger literature examining the workings of agricultural households in developing countries – does not ultimately offer much information about the focus of national development strategies or the high-level allocation of public expenditures across sectors. Even where development organizations have conducted comparative studies of rates of return at the project level for different sectors, it is difficult to interpret these results as providing

much information about the cross-sector optimal portfolio of activities.

2.5 The distinct role of smallholders in development strategies

In a discussion of agricultural development strategies, another proposition that deserves discussion is the widespread view that development strategies should focus on smallholders. Narratives around smallholder-centred approaches to agricultural development often draw on many of the same claims that we mention above: in particular, the view that smallholder agriculture is the sector (or sub-sector) where many of the world's poor reside. As a factual claim, this is beyond dispute, and we acknowledge the ubiquity of smallholders and their relative poverty. Smallholders may not, however, be the poorest people in developing countries: in many parts of the world, landless rural laborers are even poorer, and it is not clear whether they benefit more from growth in agriculture or non-agriculture. Presumably this depends on the type of agricultural growth.

The more problematic claim is that smallholder agriculture is more productive than other forms of agriculture; this claim is typically invoked to support the notion that a smallholder-focused strategy does not involve any trade-offs between equity and efficiency. Most versions of this argument depend on some variant of the 'inverse productivity' claim. The inverse productivity relationship between farm size and productivity is seen as a stylized fact in the agricultural development literature, based on empirical micro studies that consistently seem to find evidence for higher productivity in small farms than in larger farms. Leaving aside some problematic comparisons across space that fail to control for differences in land quality, the literature is overwhelmingly based on within-location comparisons of productivity (usually measured as yield) between small farms and larger farms, using farm-level data (e.g., Eastwood et

al, 2008; Larson et al. 2012, Barrett 1996). Factor market failures are typically offered as the main explanation, with small farms using family labor intensively in a kind of self-exploitation that drives up yield levels.

This empirical literature is not without its problems – see for example Barrett et al. 2010. Most of the literature is based on comparisons of very small farms with slightly larger farms, rather than comparisons with larger-scale commercial ventures (Collier and Dercon 2014). Even taking the literature at face value, though, the interpretation is ambiguous. Land productivity (i.e., crop yield) does indeed appear to be higher for small farms; but labor productivity may well be lower on small farms than large. Indeed, the high levels of (family) labor use on small farms imply very low marginal products of labor (consistent with low shadow wages) and correspondingly low average products of labor.

To the extent that small farmers achieve high crop yields primarily by over-exploiting family labor, as described by Chayanov (1926), this is a curious basis for a claim of higher overall productivity or for a call to target resources to smallholders. In effect, the higher productivity of small farms is precisely the consequence of market failures, rather than a technological feature of farm size – a point made originally by Sen (1966). Presumably, an improvement in rural labor markets or land markets would reduce or eliminate the advantage of small farms. Targeting resources to smallholders might be a less effective development strategy than investments that would reduce or eliminate the market failures that drive the inverse productivity relationship.

Returning to the implications for development strategy, the inverse productivity relationship, even taken at face value, is not sufficient to support the proposition that within agriculture, smallholders are the best investment for growth, let alone that agriculture is the best way of getting growth. It *may* suggest that if we were to choose to focus on agriculture to reach the

poor and reduce poverty, supporting smallholder agriculture *may be* a good way; but it definitely does not prove that support for smallholder agriculture is always or everywhere the best way to fight poverty among the rural population.

2.6 Food prices and agriculture-oriented development strategies

The policy narrative for a development strategy focused on agriculture is also inspired by an alternative poverty narrative – one that focuses on food prices. In this narrative, a central place for agriculture in a development strategy is justified by recent high prices and the need to reduce food price pressures. Some parts of the policy research community seemed to experience all too easily an epiphany around 2007. After years of arguing that low prices (linked to OECD agricultural subsidies) damaged poor farmers in the developing world (and particularly in Africa), the same voices started arguing strongly that low food prices were necessary for reducing world poverty. (For a sharp indictment of the policy community with respect to the food price discussion, see Swinnen 2011 or Swinnen and Squicciarini 2012.)

Food prices are a very tricky policy instrument in developing countries. Even in standard models going back to Lewis (1954), a balance between rural and urban food price pressures is central. In general, there cannot be simple unambiguous policy advice on the desirability of a higher or lower price at early stages of development. With many people earning their living from producing food, there is a negative side to low prices as well as the obvious positive side. Simplistic headcounts, based on household surveys, of how many households are “net sellers” or “net buyers” of food are likely to miss the essential endogeneity of these categories and the complexity of “food” as a category. Many rural households sell some foodstuffs and purchase others. A change in “food prices” typically involves some shift in the relative prices of different

foods as well as a shift in prices relative to some non-food aggregate. Urban households symmetrically have many margins on which they can adjust consumption in response to food price changes. As a result, the welfare implications of a food price shock are likely to be very complicated indeed. Food price changes will inevitably create winners and losers within a country.

Given this, it is not clear how global food prices should shape a country's development strategy. Higher prices will tend to pull resources into the agricultural sector; but long-run development trends suggest that people should instead be moving out of agriculture. Should governments suppress high food prices to protect urban consumers, at the expense of producers? Should they encourage local producers to tap export markets during periods of high prices, thereby in effect importing high prices to the domestic market? Ultimately, these decisions will depend on the specificity of different country situations and on the political pressures that shape policy everywhere.

2.7 Implications for development strategy?

Taken together these three main strands of literature – and the two final themes discussed above -- are hardly sufficient for a strong endorsement of the claim that stimulating agriculture is the key for stimulating growth. Agriculture has clear linkages to the rest of the economy, and agricultural growth has beneficial economy-wide effects. But the evidence is less clear on the social welfare benefits of public investments in agriculture compared to other sectors.

To say that the evidence does not clearly support an agriculture-centered development strategy is not to say that the evidence rejects this approach. Indeed, the micro development literature highlights many areas where inefficiencies emerge in agriculture due to failing markets, governments or behavioural decision making. It also offers various efficiency-enhancing

interventions that may be plausibly implemented by governments or NGOs – in areas such as credit, input adoption, risk, land rights, and more.

Taken together, the literature suggests that public investments in agriculture may well have a high rate of return (even if most studies remain quiet about the cost of these interventions) and therefore may add to a country's GDP. Indeed, in Banerjee and Duflo's (2010) view, this is the right way of doing policy: implementing those activities that have been rigorously tested could easily absorb considerable parts of government and aid budgets and offer a credible contribution to growth. In this view, there is little reason to prioritise the agricultural sector; just prioritise 'what is known to work'.

The micro development literature feels unsatisfying in many ways as a source of guidance on how to shape development strategies. The insistence on rigorous identification implies that public interventions might be limited to those activities that can be tested through natural experiments or randomization. In this case, the research method dictates not just research priorities but also policy. Rigour in identification was promoted to address the serious selection problems in policy analysis – but it has arguably resulted in a more serious epistemological selection problem in terms of the questions that can be addressed. As basis for a coherent development strategy, the micro development literature seems frankly unsatisfactory.

Some of the other strands of literature may ask the right *questions* for development strategy: specifically, by focusing on the economy-wide and poverty impacts of stimulating growth in the agricultural sector. The problem is that the questions may be too difficult to answer given the data and methods that are available, or they may require putting too much trust in methods that are unconvincing. Furthermore, even when these methods offer a strong endorsement of agriculture as a key source of growth or poverty reduction, they still cannot assess whether this

is the most cost effective way of achieving social welfare gains, as there is no basis for comparisons with similar investments in other sectors.

Ultimately, some strands of literature seem to ask too much from the data and forget to answer key parts of the question, while another strand strives for methodological purity and shies away from asking questions that are relevant but not easily answered.

3 Policy Advice and Research

In spite of the extensive research on specific aspects of agricultural development, there is surprisingly little rigorous research on development policies and strategies and little evidence on the effectiveness of alternative strategies. So given the imperfect evidence base, what should a policy maker do? Policy makers require generality in prescriptions, since compelling narratives need to be mapped into broad priorities. A policy maker might ask: Should we focus our attention on this sector or that? What is the broad set of policies we ought to consider? But he also needs specificity – with answers to questions such as: What shall I spend my public resources on? What share should go on what type of programmes?

Our policy maker may look for an evidence base to support his policy decisions. What kind of evidence? Generality matters, since policy makers need broad direction. Does a marginal dollar spent on the agricultural sector yield more or less social benefit than a dollar spent on another sector? This question implies that there is relevance in a research programme asking the macro-question – although it must consider properly the relative costs of boosting growth in one sector relative to another.

But answering the policy questions will also require specificity. The policy maker might ask: Will this strategy be relevant for my specific context? Countries differ greatly in their access

to international markets. They also differ in natural resource endowments; in the size and vitality of their urban areas; in rural population densities and land availability. Given this heterogeneity, will any general advice on the role of agriculture be applicable to all economies?

Research does not come easily as answers to these questions. So how can research be used to inform these policy questions?

3.1 Context and heterogeneity

The viability of agriculture-oriented development strategies will vary depending on the toolkits available to policy makers and on the costs and efficacy of different policies. These will all vary across space and will depend heavily on context – not just agroecology, but also social, institutional, and political characteristics of specific settings.

The central fact of agriculture in sub-Saharan Africa is enormous heterogeneity. There is no single “agriculture in Africa.” Instead, heterogeneity is a fundamental characteristic of the sector at all levels: countries, sub-national regions, villages/communities, individuals. The obvious ingredients of heterogeneity are the geophysical attributes of specific locations: climate and soils, plus country characteristics such as policies, institutions, and access to international markets. (For an agricultural scientist’s summary of the heterogeneity in African agricultural systems, see Giller et al. 2011.) The less obvious dimensions of heterogeneity are attributes such as remoteness, wealth, land abundance, political support for agriculture, agricultural market structures; and a range of other locational attributes. These affect the opportunities for non-farm employment and enterprise (as in Haggblade et al. 2007, Barrett et al. 2001 or Lanjouw and Feder 2001), the potential for cash crops and non-traditional agricultural products (e.g., Depetris Chauvin and Porto 2011), the potential for commercialization, and more. See Masters et al. (2013) for a broader

discussion of how heterogeneity affects the potential pathways for agricultural development.

The implication for understanding policy advice on the national and local role of agriculture in development is strikingly clear when considering the implication of openness and spatial connectivity. Most of the macro models linking agriculture and growth, dating back to Lewis (1954) or Johnston and Mellor (1961), have assumed closed economies. In principle, opening the economy has the potential to ease the constraint that economies must produce their own food. Indeed, in some cases, opening an economy to external markets may change the fundamental policy recommendations (see e.g. Eswaran and Kotwal 1993 or the well-known results of Matsuyama 1992). This has encouraged some to argue that trade liberalization represents an alternative to agricultural development and to assume that developing countries produce so much of their own food largely because of explicit or implicit barriers to trade (e.g., Tombe 2012). It is nevertheless misleading just to model a country as closed or open – few countries would be ‘closed’ in the strict sense, even if policies still restrict agricultural trade internationally.

At the same time, spatial connectivity *within* countries is highly heterogeneous, increasing trading costs to such an extent that some geographic areas are effectively closed, even if a country’s borders are in principle open. In other words, for broad ranges of world market prices, some sub-national regions of countries may neither import nor export food, even though the costs of production may be above or below world prices, due to large transportation and transaction costs. In effect, these local economies can be thought of as closed. Gollin and Rogerson (2014) show how transportation and transaction cost differences can lead to large differences in the productivity and orientation of agriculture across space. This echoes recent empirical findings by Stifel et al. (2012), Moser et al. (2009), Jacoby and Minten (2009), Stifel and Minten (2008), or Burke and Jayne (2009), among others.

Spatial connectivity does not depend only on infrastructure; it also involves the various underlying determinants of the ‘value chain’ including the nature and competitiveness of market structures. Spatial connectivity is also endogenous to policy, including policies supporting or hindering agricultural trade and creating or condoning particular market structures, as well as investment in the connectivity infrastructure such as ports, roads and power. These investments are in turn dependent not just on economic decision-making but are likely to have political economy elements linked to regional or ethnic objectives. Discussions of agricultural development strategies often blend into these broader conversations about national development strategies; agricultural development in many countries is not seen as distinct from broader national strategies. This is apparent in the current interest in “growth corridors,” for instance; this concept links agricultural development priorities to natural resources (Weng et al. 2013).

The limited policy options open to governments for supporting agriculture, as for example towards remote areas, also beg a comparison to the options in other sectors. How does the cost-effectiveness of agriculture-oriented strategies compare to the strategies targeted to other sectors – or those aimed economy-wide, without sectoral targeting? These were the big questions asked by growth theorists going back to Nurkse (1953), Hirschman (1958), Rosenstein-Rodan (1943) and others, debating balanced or unbalanced growth. The opportunities available in other sectors are likely to change the general recommendations on a relative focus on agriculture as well as the local specific opportunities for agriculture.¹⁰

¹⁰ We don’t discuss issues of migration here, but in line with all literature on growth and development strategies, internal migration and release of labour from agriculture is considered a central part of progress in development. For example, as Johnston and Mellor (1961) put it: “Policies that take account of this process of secular transformation and its implications are in the long-run interest of the farm population as well as the country as a whole. Reduction of the farm labor force is a necessary condition for establishing factor proportions that yield return labor in agriculture that are more or less in accord with returns to labor in other sectors. More concretely, insufficient movement out of agriculture will perpetuate, or lead to, excessively small farms and serious underemployment of labor as the proximate causes of sub-standard farm incomes.” (p.590).

3.2 Typologies and diagnostics

So where does this leave research in support of development strategies? Policy makers would surely be helped by more careful highlighting of the big assumptions underlying the outcomes from the modelling exercises, as some of these are crucial for the policy advice that follows from them. Examples in CGE and macro-models are the role of the assumptions about international trade and the role of the subsistence constraints. Incorporating context and heterogeneity in the modelling exercises that try to answer the big questions would be particularly useful.

For some, this has led to an argument for ‘country typologies’ – in which countries are distinguished by their most striking differences to guide policy advice. For example, Dercon (2009), building on Ndulu et al. (2008), suggested three categories of sub-Saharan African countries for the purpose of an agricultural development strategy: landlocked without natural resources, resource-rich and coastal non resource-rich economies. The landlocked countries with limited resource wealth (such as Ethiopia and Rwanda) could be treated more like standard ‘closed economies’ for the purposes of agricultural strategies; in these economies, an early focus on agriculture may be more justified. A coastal non resource-rich economy (such as Kenya, Tanzania or Mozambique – at least prior to recent discoveries of large gas deposits) could push for more focus on non-agriculture, exploiting a plausible competitive advantage in manufacturing and international trade; in such an economy, agriculture might offer public investment opportunities but would not necessarily be critical for growth, given the potential for food imports. Finally, those economies with abundant natural resources have potentially huge wealth for investment in the

rural economy. But these countries also face huge macroeconomic pressures from Dutch Disease as well as facing incentives for poor governance. In these economies, agriculture is not required for its role in generating aggregate surplus, but it could be an important source for balancing the economy, and for distribution of resource wealth.

At best a typology of this kind can be illustrative, including also as a means of cautioning for transferring findings on the central role of agriculture from one context to another. Here we can cite no better source than Johnston and Mellor (1961, p.590), who wrote on the importance of agricultural growth for overall growth that “it will not be so crucial in countries which have the possibility of securing a sizeable fraction of their capital requirements by exports of mineral products...” The increasing role of natural resources in African economies, with more and more countries on the brink of vast resource rents, is challenging some of the standard arguments for a development strategy based on agriculture -- both in terms of economic opportunities for different sectors and because of pressures linked to political economy.¹¹

But in this paper, we argue that the typology across countries of Dercon (2009) is only a starting point. Heterogeneity *within* countries also should enter discussions on the role of agriculture in development strategies. African countries display varying degrees of dualism and internal spatial heterogeneity. This theme is already addressed to some degree in stylized models (e.g., Gollin and Rogerson 2014) and in more recent CGE models (McArthur and Sachs, 2013; Diao et al. 2010; Adam et al. 2013). But the degree of dualism varies considerably across countries, and with it there is also variation in the potential role of agriculture. In some countries with particularly remote or isolated hinterlands, extensive modes of quasi-subsistence agriculture

¹¹ Even in terms of the associations between growth from agriculture and poverty reduction, natural resource-rich economies appear to behave not according to the simple assumptions – but with more heterogeneity, as found by Christiaensen et al. (2012).

(including pastoralism) will remain significant as a source of livelihoods for poor people. In other countries, many agricultural households may inhabit better connected areas where the appropriate agricultural strategies might include an emphasis on non-perishable cash crop opportunities (e.g., coffee, cocoa, vanilla, cotton) to accompany improvements (e.g., nutritional enhancement) in staple food production. In still other countries, commercial production of staple food crops on medium- to large-scale farms may prove a sensible element of agricultural development strategy. And in still other settings, commercial production of high-value perishable cash crops (e.g., fruits and vegetables, flowers, dairy products) will be economically viable. What seems clear is that many countries will need multiple agricultural strategies aimed at different regions and socioeconomic classes of farmers. We disagree with narratives suggesting that a single agricultural strategy (e.g., smallholder production of staple foods, or large-farm production of soya) can make sense for entire countries, much less for an entire continent.

Much more research and analysis needs to take place if policy makers are to design reasonable strategies based on evidence. Crude typologies can be sub-divided further, but ultimately precise typologies give way to the recognition that countries face highly idiosyncratic challenges. This means that location-specific applied research will still be required to help making concrete allocation decisions within agriculture and across sectors. Key contextual information will involve not just the local agroecological potential but also the particular characteristics of international trade opportunities and rural connectivity to urban markets; local wealth distributions and local political economy drivers of investment; and the scope for productivity increases.

The alternative to the practicality of searching for ever more detailed typologies could be diagnostic tools, informed by the best research and evidence available. In the spirit of growth diagnostics as in Hausman et al. (2008), the theoretical and empirical research available, filtered

by a good understanding of the key features of local context, could be used to identify the key constraints and opportunities for agricultural development, as part of overall growth strategies. Such an approach is not without its critics (see for example Aghion and Durlauf 2009), but it offers a framework to prioritise across or within sectors, using the best available evidence. The criteria to be pursued can extend beyond agriculture's contributions to growth – they can easily be extended to incorporate distributional priorities, environmental concerns, and other issues. We must nevertheless recognise that such approaches will be as much art as science. The evidence base and theory will not be sufficient to provide clear and detailed predictions on the effects (and particularly the general equilibrium effects) of lifting particular constraints. As with all policy advice, researchers need to be transparent as to the limitations of their analysis and clear about the borders between evidence and assumptions.

3.3 Restating the research agenda

Diagnostics and typologies may help the applied researchers to structure advice and inform policy makers, finding a balance between generality and specificity. The quality of the policy advice will only be as good as the research evidence on which it can build. How can research be more informative on helping to identify appropriate development strategies and the role of agriculture therein?

The macro-research, as discussed in section 3.1, could do with a stronger focus on exploring the heterogeneity within and across African countries. Approaches as in Gollin and Rogerson (2014), but further influenced by empirical understanding of the role of remoteness, connectivity, trade regimes and its interactions with other sectors and urban areas are a possible direction. Africa is meanwhile changing, and growing economies bring new challenges requiring a

more dynamic understanding of sectoral and spatial interactions. One key change is the growing role of natural resources in the macroeconomy, and the changing opportunities and constraints for agriculture development remain understudied.

The micro-development literature will no doubt grow further. Here, more constructive progress for informing development policies and strategies could come from a more careful macro-contextualisation of this literature. It is beginning to specialise in rather stark and very specific advice on agriculture, devoid of contextual understanding. For example, referring to Duflo et al. (2011), while nudging for fertilizer use may be feasible, questions could be asked for the transferability of the advice to other locations. Even in Kenya, this policy prescription may not make sense across all locations. It is not clear that in other parts of the country, fertiliser-based maize agriculture is profitable in an absolute sense (e.g., Suri 2011) or relative to other crops and activities, especially after taking into account the differences across locations in connectivity and the functioning of input and financial markets. Adding up the various pieces of very specific, localised advice from the micro development literature remains a huge challenge, and making what is seemingly an increasingly very policy-oriented literature less than satisfactory for the policy maker.

A key weakness of the current research agenda, and the reason that discussions on the role of agriculture in development in the academic literature often lack sufficient relevance for the design of development strategies is the lack of a careful assessment of the costs and the opportunity costs of boosting growth in agriculture, despite the claims made in the micro and macro literatures. When making claims on the relative effectiveness of boosting agricultural growth for poverty reduction as compared to other sectors based on empirical investigations (as in Chen and Ravallion 2007 or Christiaensen et al. 2012), there is no discussion of the relative

cost-effectiveness of obtaining growth in agriculture, or indeed the non-financial institutional or political constraints to growth in various sectors; there is just an implicit assumption that this can be done straightforwardly.¹² There appears a lack of maturity of the debate on the feasibility of stimulating growth in agriculture via a focused agricultural policy in contrast to, say, the lively debates on the feasibility of industrial policy and of picking winners (Wade, 2003; Rodrik, 2007; Robinson, 2011).

Closely related, it is also striking that the policy debates have drawn so little on the growing empirical literature that addresses the political economy of agricultural policy in developing countries. (See, for example, Anderson and Masters 2009, Anderson et al. 2013, Olper and Swinnen 2014, Olper et al. 2014.) Agricultural policies tend to emerge from a political process, rather than a technocratic process. Many developed economies subsidise strongly their agriculture and typically not for any efficiency reasons. And yet the policy dialogue over agricultural development strategies for Africa has largely ignored the underlying political forces that shape governments' approaches to agriculture. Since the work of Bates (1981), it has been clear that agricultural development strategies in Africa are closely tied to larger goals of achieving political stability, mobilizing revenues for the state, and controlling urban food prices.

Arguably, however, the political landscape has changed for agriculture in Africa. With emerging growth, often but not exclusively based on natural resource extraction, the debates on the role of agriculture in development could use to revisit the political economy drivers of agricultural policies in sub-Saharan Africa. These political economy changes are likely to be the main determinants of future relative choices of investments towards agriculture or other sectors, and

¹² The micro-development literature has occasionally discussed cost (as in Duflo et al. 2011) but not quite in the sense of the costs or feasibility to scale up and set up the delivery systems (or markets) across varying population density, even of the appropriate nudges.

their spatial dimensions.

4 Conclusions

The various strands of the literature reviewed in section 2 of this paper offer some insights but fall short of a coherent evidence base to either answer the general questions on the *imperative* of supporting agriculture for development or the specific questions on making relative choices with public resources for development: we cannot conclude agriculture should be the core part of poor countries' development strategies. It is also key failing in the literature to be clear about the scope of the toolkit for the agricultural policy maker, and its costs, as well as the opportunity cost of focusing on agriculture relative to other sectors.

Indeed, it does not make sense to answer in general that agriculture should be the key focus of “development strategies” or not. Even though it is often cited as the key article articulating the case for an agriculture-led development strategy, Johnston and Mellor (1961) themselves qualified their own analysis with a caution that “...diversity among nations and the variety that is so characteristic of agriculture inevitably limits the validity of a condensed, general treatment.” (p.590). We cannot agree more. The heterogeneity between and within countries does not just affect the specific opportunities for boosting agricultural growth, but it will also affect the costs and benefits of doing so. Unfortunately, the literature too often remains silent on these factors.

However, there is no doubt that in many places and circumstances in Africa, both public and private agricultural investments are highly profitable; the apparent increase in interest by various investors in African agriculture would suggest that there are indeed opportunities. It is also clear that some individuals and firms are finding farming to be very profitable in Africa – not only

in the traditional cash crops of coffee, cocoa, and rubber, but also in flowers, fruits and vegetables, and *qat*. Cereal and dairy production, too, are proving profitable for those with good access to urban markets. But there is nothing in the evidence to state conclusively that agriculture should be promoted over other sectors.

The point is not that governments should avoid agriculture. The weakness of the arguments for agriculture-led development strategies in sub-Saharan Africa is the tendency towards generalisation – and the suggestion that everywhere there are high returns, and everywhere agriculture is the best investment for scarce public resources to stimulate growth and equity. Furthermore, it simply cannot be correct, given the heterogeneity of the region, that smallholder production of staple food crops is the optimal agricultural strategy across sub-Saharan Africa. This is a misrepresentation of the evidence base, and it also hinders the ability of policy makers to make careful choices for prioritising resources.

The issue of balance is likely to be important too. Growth in agriculture will not come in isolation but from its interaction with the rest of the economy. A more careful assessment of the relative benefits in each context of investing resources in agriculture versus other sectors is essential but largely lacking. Again, Johnston and Mellor (1961) appear to take a stand here, arguing for some ‘balance’, writing “[A]lthough this paper has stressed the importance of agriculture’s role in development, we part company with those who draw the inference that agricultural development should precede or take priority over industrial expansion.” (p.590) and also “[I]t is our contention that ‘balanced growth’ is needed in the sense of simultaneous efforts to promote agricultural and industrial development.”(p.590). A careful assessment of what this ‘balance’ may be is largely lacking. Good policy making is about making judgements based on the available evidence, and willingness to learn when new evidence becomes available. A

literature too much focused on arguing the case without offering the evidence to make decisions is not particularly helpful.

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