TRANSFORMING DEVELOPING AGRICULTURE : ESTABLISHING A BASIS FOR GROWTH

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This paper examines recent contributions to the study of economic growth and attempts to draw inferences relevant to agriculture in the developing regions of South Africa. New growth theory suggests that physical and human resource endowments are wasted if government does not establish the correct economic and political institutions. Indeed, recent empirical findings suggest that rapid growth observed in certain low-income countries has more to do with economic policy and institutional change than with public investment in physical and human capital. A brief comparison between institutions in the homelands and those recommended by new growth theory reveals some fundamental problems facing local policy-makers and researchers. These include identifying and implementing strategies that will produce the institutional changes needed to strengthen property rights in land, reduce legal uncertainty in commercial transactions, and ensure that local authorities are exposed to both the economic and political consequences of poor governance.

1. INTRODUCTION

This paper examines some recent contributions to the study of economic growth and attempts to draw inferences relevant to agriculture in the developing regions of South Africa. The aim is to identify fundamental problems inhibiting agricultural development in these regions.

Agriculture should, and could, make a contribution to economic growth in the homelands[1] of South Africa. At present these less-developed areas are net importers of food, and are characterised by extensive rather than intensive land use despite extreme population pressure and high rates of unemployment. Past efforts to improve homeland agriculture were confined largely to public investment in extension and training, credit programmes, irrigation projects and machinery services. Current agricultural policy proposes greater public investment in the developing sector, and a realignment of research and extension resources to better serve the interests of small-scale farmers.

It is well known that economic growth produces negative externalities like pollution and congestion, but these problems are not insurmountable and pale in comparison to the misery caused by poverty. Of course, there is not a perfect link between economic growth and poverty, but it is difficult to imagine a significant decline in poverty in the absence of economic growth. Sections 2 and 3 of this paper review pertinent contributions to the theory of economic growth, and section 4 summarises recent empirical findings. The relevance of this work to local conditions is demonstrated in section 5, and the paper concludes with comment on the role of government and the need for objective policy research.

2. NEW GROWTH THEORY

Economic growth played a central role in the development of economic theory. In 1776, Adam Smith published his inquiry into the nature and causes of the wealth of nations. Smith attributed economic growth to the division of labour, the accumulation of capital and technical progress. He also recognised the importance of a stable legal framework within which markets could function. In 1817, David Ricardo formalised the concept of diminishing marginal returns - a concept readily adopted by neoclassical growth theorists during the 1950s. The neoclassical model postulates that growth in response to increasing physical inputs would slow and eventually halt unless there was technical progress.

Viewed from an empirical perspective, the neoclassical model suggests that countries with low initial technology should grow faster than more advanced countries. This is especially true today because technology is more readily transferable across borders than ever before and investors, including those in poor countries, have ready access to global capital markets (The Economist, 1996). Indeed, rich countries have experienced lower economic growth since 1970, but their growth rates are still well above those recorded by the vast majority of poor countries. This anomaly has focused the attention of new growth theorists on the neoclassical model and its assumptions. Romer (1986), for example, argues that diminishing returns may not apply if the quality of human capital improves.

Freebairn's (1995) comparison of neoclassical models estimated from the same panel data (139 countries by year from 1950 to 1988) reveals that applications of the neoclassical model explain just two-thirds of the differences in growth rates observed for developed countries, and less than one-third of the differences observed for developing countries. Although explanatory power improves when the quality of human capital is added to the model (Barro, 1991) the results suggest that the neoclassical and early 'new growth' models ignore relevant variables, and that the omitted variables may contribute more to the growth of developing countries than do physical resource endowments and human capital.

North (1990a:133) rejects models that attribute economic growth to increasing returns and the accumulation of physical and human capital without regard to the incentive structures which drive investment and innovation. Like Eggertsson (1990:319), he distinguishes between an economy's technical production frontier and its structural production frontier. The technical production frontier describes the maximum **possible** output combinations given the endowment of resources, the level of technology and the amount of human expertise. By contrast, the structural production frontier maps the maximum **attainable** output combinations associated with a given set of institutions and policies (Dollery, 1995). Different structural production frontiers are associated with different institutional and policy mixes - some place the structural frontier closer to the technical frontier than others and are therefore more efficient in the economic sense. Olson (1996) provides convincing evidence that most poor countries are not growing fast simply because they waste resources - their structural frontiers fall well short of their technical frontiers.

Under these conditions, economic growth may well depend more on institutions and policies that minimise waste than on the accumulation of physical resources and human capital. This thesis certainly helps to explain the fact that the highest rates of economic growth have been achieved not by rich countries but by a subset of poor countries that managed to narrow the gap between their actual and potential income by adopting relatively good economic policies and institutions (Olson, 1996).

3. INSTITUTIONS AND GOVERNMENT POLICY

Institutions refer to arrangements among economic agents that influence uncertainty in exchange and ownership (North, 1990b). The legal, regulatory and institutional (LRI) framework, of which property rights are a fundamental element, determine the opportunities and incentives for players in both economic and political exchanges (de Gorter and Swinnen, 1995). The relevant question is what type of governance yields optimal public policy and economic performance?

According to Beghin and Fafchamps (1995), *good governance* requires government policies and institutions that promote competitive markets and which enhance efficiency in exchange by reducing transaction costs. For example, property rights must be secured and the rule of law enforced so that private returns on investment and exchange are predictably allocated. Good governance is facilitated by *economic and political openness*. They define economic openness as the commitment to let the market discipline work and to ensure the sectoral and international mobility of resources. This allows private agents to retaliate against bad governance by *exit* - that is, by transferring resources across sectors and boundaries. Political openness refers to the contestability of political markets and public service provision, the participation of pressure groups in policy decisions, and the transparency of the policy making process. Political openness makes it possible for individuals and groups to *voice* their opposition to bad governance.

The theory of endogenous policy asserts that policy choices are determined by the political power of individuals or groups, subject to constraints (Zusman, 1995). The constraints are determined largely by the LRI. For example, the behaviour of all political players is constrained by the threat of exit if the prevailing LRI sustains economic openness. Our stock exchange and currency markets have shown that even the most respected leaders are not immune to economic censure. Political openness, accountability and respect of the rule of law also place limits on acceptable rent-seeking behaviour, thereby defining the range of implementable policies. The implication is that economic and political openness lead to more *predictable policy* because the State can be penalised for bad governance through voice and exit (Beghin and Fafchamps, 1995).

While it is true that predictable policy is a characteristic of western democracies, democracy is neither a sufficient nor a necessary condition for good governance, especially during times of political transition. History has shown that dominant coalitions and benevolent dictators can also produce a mix of economic and political openness that stimulates economic growth. De Gorter and Swinnen (1995) conclude that the *credibility* of government's commitment to protect property rights and commercial rules is more important than political pluralism, at least in the early stages of economic development.

4. EMPIRICAL FINDINGS

Most economists accept the view that economic growth is influenced by institutions and government policy, but the causal links are not well understood. Bromley (1989), for example, argues that economic growth determines what institutions and policies a country can afford. The strictly empirical approach adopted by some researchers (to explain differences in growth across countries) has produced some useful insights but few policy recommendations because the estimated models lack theoretical guidance and omit variables which adequately capture ideas about institutions and policies (Freebairn, 1995).

Beghin and Fafchamps (1995) provide a useful taxonomy of measurable variables that quantify certain aspects of a country's governance and institutional arrangements. Table 1 lists some of these variables and indicates the anticipated direction of their association with economic growth. Notable by their absence are measures of the quality of property rights and their enforcement. Empirical studies should at least consider the quality of land tenure, but attempts to construct a cross-country index of tenure security have been foiled by the co-existence of different land tenure systems within the same country.

Considering the obvious gaps in both data and theory, it is hardly surprising that cross-country studies have produced mixed results concerning the impact of individual policy and institutional variables on economic growth (Freebairn, 1995). The only consistent finding is that these variables do influence economic growth.

Sachs and Warner (1996) compared per capita GDP growth rates in 53 African countries with those in eight fast-growing economies and estimated an overall shortfall of 4.5 percentage points in Africa's annual growth during the period 1970-1989. They attribute 35 per cent of the shortfall to weak institutions and economic policy, and 37 per cent to lower national savings in African countries - primarily a consequence of high taxation and government spending. Sachs (1996) recommends market deregulation, free trade and currency convertibility to promote openness; privatisation of state enterprises (especially telecommunications, power and port facilities) so that government can focus on real public goods such as the judicial system, roads, health, education and monetary stability; and lower taxes with government expenditure reduced to 20 per cent of GDP.

5. NEW GROWTH THEORY AND AGRICULTURE IN THE DEVELOPING REGIONS OF SOUTH AFRICA

Of what relevance is new growth theory to agriculture in the developing regions of South Africa? At macro-level, private investment attracted by good governance should improve off-farm employment prospects, alleviating rural poverty and liquidity constraints faced by small, part-time farmers. Local studies show a positive correlation between off-farm incomes and investment in agriculture among rural households in the homelands (Nieuwoudt and Vink, 1989, Ortmann and Lyne, 1995). Higher incomes are also expected to have positive consequences for other rural enterprises through consumption growth linkages. Studies undertaken in several African countries suggest that a one dollar increase in household income could yield more than one dollar of additional income from increased production of demand-constrained rural goods and services (Delgado, 1996).

Table 1: Measures of governance and institutional arrangements

Concept	Measurable Variables	Association with Growth
Transaction costs	Ethnic, religious and language diversity	-
	Weak communication infrastructure	-
Political openness	Favourable ranking on Gastil's index of political and civil liberties	+
	Electoral support for opposition parties	+
	Low incidence of political violence and coups, riots and strikes	+
Economic openness	Ownership of foreign currency, securities and bank balances	+
	Volume of *impersonal* exchanges in commodity, stock and futures markets	+
	Freedom of movement in one's own country and freedom to leave that country	+
	Few restrictions on the ownership of real estate by foreign investors	+

Source: Adapted from Beghin and Fafchamps (1995).

More relevant to the topic though, are the implications of new growth theory when applied to the less-developed regions within the country. Accordingly, policy which provides better access to resources, information and training may elicit only a muted response from rural households if **local** institutions do not provide opportunities and incentives for farmers. There are some indications that policy-makers share this view. For example, the green paper on land reform recognises the importance of secure land tenure, and emphasises new legislation intended to upgrade property rights to land held by communities (Department of Land Affairs, 1996:43). Of concern however is the extent to which existing and alternative institutional arrangements satisfy the criteria for economic growth.

The balance of this paper attempts to focus attention on the nature of institutional problems in the less developed regions of South Africa that warrant objective analysis by agricultural economists in South Africa. Most of the examples which follow are based on empirical research, but some are drawn from the more subjective realm of personal experience. Even so, the list is far from complete.

5.1 Land tenure and management institutions

Property rights to agricultural land in the developing regions have been the source of academic controversy for some time. Recent literature has challenged the view that customary land tenure is secure, and Thomson (1996:88-98) provides convincing evidence that private returns on investment and exchange are not predictable. It is significant that Thomson's findings relate to arable land which is characterised by relatively well-defined and exclusive individual property rights. However these property rights are not well enforced and farmers risk severe crop losses due to theft and damage caused by livestock. On a more positive note, Thomson has shown that adaptations to the local LRI framework are not only possible but also that small improvements in tenure security and in the application of laws governing contracts have a pronounced impact on the rental market for land, leading to more intensive land use and welfare gains for both lessors and lessees. Importantly, he recognises that these institutional changes would not have been possible without a firm commitment and visible support from credible leaders in his study area - in this instance, the Nkosi (chief) and his tribal councillors.

Property rights to grazing land pose a far more complex problem and it would be naive to propose that communal grazing should be reassigned to individuals. It is also naive to assume that communal grazing is common property as there is very little evidence of restrictions imposed on herd size. The immediate challenge is to find acceptable ways of returning open access grazing to a common property resource. Proposals should not be constrained by the notion that common property must be controlled by a traditional user group, *ie* a well-defined group of individuals, each managing his or her own herd subject to use limits imposed by the group as a whole. While there is ample evidence that small user groups are capable of regulating the use of common property (Wade 1987), it is unlikely that these organisations will satisfy the conditions necessary for economic growth. First, it is extremely difficult for user groups to negotiate and enforce rules that share the benefits of investment in proportion to the costs borne by individual members. Pervasive free-riding implies that private returns on investment cannot be predictably allocated. Second, allocative efficiency is prevented by the absence of a competitive market in access rights. Such transactions are rare when common property is managed by a user group because outsiders have to transact with all of the users.

Local experience suggests that non-user groups could provide a better platform for economic growth. Wynne's (1995) comparison of community-based organisations (CBO's) established to manage communal wildlife resources showed that successful organisations delegated decision-making to a small team of representatives elected by a well-defined membership. In addition, these CBO's encouraged members to accept managerial decisions by linking individual benefits directly to compliance. In effect, the more successful group organisations embraced the principle of rewarding members according to their own contributions. These attributes approximate those which characterise private companies - business entities that are capable of attracting both equity and debt capital, and which are able to negotiate contracts. Wynne's study also emphasised the important role played by strong leaders and outside agents in establishing the new institutions.

Property rights and organisational arrangements have serious implications for land redistribution, extension and agricultural research. Although government recognises the need for tenure security, its practice of pooling individual grants to buy whole commercial farms automatically introduces a model of collective ownership by large groups. Admittedly, the intention is to ensure that each group designs a formal constitution to control land use. However, there is no guarantee that large groups will adopt the complex rules needed to sustain economic growth. Certainly this did not happen in New Zealand when the colonial government pursued a similar policy on Maori land (Lyne, 1994). It took several decades and a concerted effort from government to transform large groups of co-owners into credit-worthy management institutions. Not surprising, these 'new' institutions resembled private companies. While this outcome is not precluded by local policy, it is certainly not compatible with the idea of registering overlapping individual rights to the same parcel of land (Department of Land Affairs, 1996:45), nor is it likely to transpire without strong guidance.

The implications for research and extension are well illustrated by a problem facing researchers investigating rotational grazing systems for small-scale farmers in KwaZulu-Natal. Assuming that a profitable rotation is discovered, to whom should the findings be disseminated in areas where stock-owners share grazing land but manage their own herds? Under these circumstances, the adoption and maintenance of new husbandry techniques is highly unlikely in the absence of centralised management.

5.2 Market transaction costs

Markets produce the objective information that guide economic decisions taken by farmers, financiers and firms that produce technology. Missing and imperfect markets lead to divergencies between private decisions and those considered desirable by society. One example is the tendency for rural households in overcrowded homelands to adopt time-saving rather than land-saving farm technologies because the private opportunity cost of agricultural land is extremely low in the absence of an efficient rental market. Efficient markets require low transaction costs (Demsetz, 1964).

Lack of adequate infrastructure is an obvious cause of high transaction costs, and few analysts would dispute the need for improved road, postal and tele-communication networks in the homelands. A recent comparison of tribal wards in the KwaZulu homeland revealed that the poorest wards were those furthest removed from markets and main roads (Fitschen and Klitgaardt, 1996). Significantly, the results of this study showed that differences in physical and human resource endowments did not explain the bulk of income variation across tribal wards. While some of the residual variation was attributed to distance from markets and main roads, the data were not rich enough to consider other types of infrastructure or the quality of institutions in tribal wards.

Legal uncertainty is also an important source of high transaction costs. Many of the homelands host dual legal systems. Individuals have recourse to national law, but disputes involving local contracts and property rights are usually handled by tribal courts. Case studies have revealed an absence of firm legal precedents for commercial contracts, uncertainty about fees charged and compensation awarded, weak enforcement of court rulings, and the fact that claimants are personally liable for the cost of services provided by tribal police (Thomson, 1996:92-96). As a result, the expected level of compensation for losses resulting from a breach of rights seldom warrants the cost of seeking legal redress, even for cases that would be regarded as clear-cut in other parts of South Africa. This problem increases the risk attracted by impersonal transactions, especially when contracts involve moral hazard. For example, Ouattara and Graham (1996:9&47) note the virtual absence of impersonal credit transactions within the homelands. In general, commercial contracts are confined to either highly personalised or strictly cash transactions characterised by a short marketing chain and few economies of scale. Barriers to entry and transaction costs facing different groups of private agents differ enormously when transactions are personalised. For example, individuals with weak social status often face greater legal uncertainty than do the rural elite.

5.3 Economic and political openness

The picture which emerges suggests that some critical aspects of good governance are lacking in the homelands. For example, resources cannot transfer freely from a 'bad' tribal ward to a 'good' tribal ward in the absence of competitive land markets, and a 'bad' tribal authority is not censured by a decline in local land prices. Resource mobility is also constrained by political, ethnic and language barriers which isolate some rural communities. In short, good governance is not facilitated by economic openness. Nor is it facilitated by political openness in regions where disaffected groups are unable to voice their opposition to bad governance. This should not be interpreted as rejecting the system of tribal authorities. Thomson's study shows that tribal authorities are not necessarily immune to the plight of minority groups, and that a credible leader committed to upholding property rights and commercial contracts can play a key role in bringing about institutional change. However, not all tribal authorities may be so accommodating. The point is simply that policy becomes less predictable in regions where political *voice* is not guaranteed and where economic *exit* is constrained.

6. CONCLUSIONS

This analysis offers two main conclusions: First, economic growth requires a mix of institutions and economic policy that is stable and which creates opportunities and incentives for entrepreneurs. Second, local institutions can be altered through judicious intervention.

It is clear that some key institutions in the less-developed parts of rural South Africa do not satisfy the criteria for economic growth. To be sure, the list of institutional problems identified in this paper is far from complete. Quality research is required to fathom the economic implications of existing institutions, and to provide policy-makers with objective information about the economic consequences of alternative arrangements. In addition, researchers must give serious consideration to the process of institutional change. Strategies involving small, incremental changes may generate less uncertainty, and are more likely to be accepted and implemented, than are radical departures from prevailing institutions.

For their part, policy-makers must appreciate that public investment in the usual elements of farmer support programmes (like extension, training, credit and new technology) will not elicit a significant response while the institutional setting is wrong. Government must first implement strategies that promote economic and political openness within the developing regions. This requires investment in public goods such as roads, tele-communications, postal services, and a judicial system that individuals can depend on to secure their property rights and to uphold commercial contracts. It also requires that *de facto* local government must be accountable to all of its constituencies.

NOTES

1. The terms 'developing regions', 'less-developed regions' and 'homelands' are used interchangeably when

referring to the former independent states and self-governing territories of South Africa.

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