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MACRO-ECONOMIC CONSIDERATIONS IN RESEARCH ON AFRICAN RURAL DEVELOPMENT AND EMPLOYMENT GENERATION

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Table of Contents

I. Introduction

II. Macro-Economic Policy and Rural Development

Wage Policy

Monetary Policy

Fiscal Policy

Foreign Trade Policy

Foreign Aid Policy

Summary and Evaluation

III. Relationship of Rural Development to National Goals

IV. Research Implications

I. Introduction

The present emphasis of development economists on rural development as a possible means of attacking the unemployment and income distribution problems in developing countries, establishes the need for improved theoretical concepts and expanded research effort at the micro-level (see particularly Working Papers 2 and 4). However rural development is only one aspect of national development and must therefore be considered within the wider framework of overall national policies and goals.

There are two broad macro-economic considerations in analyzing rural development. Firstly, macro-economic policies such as monetary and fiscal policy, affect factor prices (particularly labor and capital) which in turn influence (a) the choice of technique in investment decisions and (b) the allocation of investment and labor, and consequently the distribution of income, between sectors. Secondly, policies to facilities rural development have important effects on national social and economic goals of growth, income distribution and employment both directly, and indirectly through agricultural - nonagricultural interactions. [1,2]

It is the aim of this paper to critically examine the current state of knowledge with respect to (a) the implications of macro-economic policy for rural development and (b) the impact of a rural development strategy on national goals.

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[1] Policies to facilitate rural development include provision of credit, social services, education, extension compaigns, etc.

[2] For convenience the terms "rural" and "agricultural" will be used in this paper synonymously. See working paper #4 for this question.

We will also suggest priority areas for both theoretical and applied resear which must be undertaken to enable the goals of income redistribution and employment generation through rural development to be adequately incorporat into macro-planning exercises.

II Macro-Economic Policy and Rural Development[3]

Recent literature analyzing the causes of the income distribution and unemployment problems in the developing countries places central importance on factor-price distortions resulting from government macro-economic policy. (e.g., Dziadek ( ), Meier ( ), Thorbecke ( ), Singer ( ), Eicher et. al. (Ranis ( ), Todaro ( )). A variety of government policies common in the developing world have been widely criticized for encouraging capital-labor substitution through either (or both) the undervaluation of capital or the overvaluation of labor, resulting from government induced market imperfectic These policies discriminate against the labor intensive sectors, particularl agriculture, widen income distribution between small-scale and large-scale industry and create unemployment. In the literature the employment and income distribution effects of five groups of macro-economic policies have been discussed: (1) wage policies, (2) monetary policies, (3) fiscal policies, (4) foreign trade policies and (5) foreign aid policies.

1. Wage Policies

Although wage earners are a small proportion of the total labor force in most African countries, wage policy has been the focus of considerable

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[3] This paper is primarily concerned with short-run policy measures. In the long run, demographic policies are an important consideration

controversy in literature. (e.g. Berg ( ), Weeks ( ), Kilby ( ), Ewusi ( ), Rimmer ( )). Most authors contend that because of certain institutional factors, wage rates are higher than would be the case in a labor market which accurately reflected supply and demand. Furthermore, rapid increases wage rates have been increasing rapidly as illustrated by the recent decision of the Adebo commission in Nigeria to increase wage rates by 30 percent.[4]

The direct effects of high wage rates on employment is determined by the elasticity of wage employment with respect to wage rates. The few empirical studies available suggest that this elasticity is significant in modern manufacturing establishments of developing countries, (e.g. Frank ( ) for Nigeria, Harris and Todaro ( ) for Kenya, and Williamson ( ) for the Phillipines). Furthermore, Frank ( ) convincingly arques that because the public sector has a fixed budget, the employment in this sector is inversely related to the average wage rate. Given that African governments often employ half of the wage earners, this must be a significant consideration in wage policy.

Since wage earners are a small part of the total labor force, the direct effects of high wage rates on total employment are not large.[5] However, because most wage earners are located in urban areas, a high and rising wage rate leads to a widening of the rural-urban income disparity. The available evidence indicates that this disparity acts as a primary stimulus to rural-urban migration, suggesting that wage policies are crucial to any efforts to

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[4] Evidence from West Africa, excluding Nigeria, indicates wage rates are tending to stabilize (see Eicher et. al., Rimmer ( )). The implications of this slowing of wage increases for the rural - urban income disparity are inconclusive. (e.g. Rourke ( )).

[5] For example, wage earners comprise less than 5% of the total Nigeria labor force.

alleviate the urban unemployment crisis.[6] (e.g. Frank ( ), Harris and Todaro ( )).

A further aspect of wage policy that is important to rural development is the impact of urban wage rates on rural wage rates.[7] Hired labor in rural areas, with the exception of plantation agriculture is largely casual labor, exempt from the provisions of minimum wage legislation. It can therefore be inferred that wage rates in rural areas are more likely to reflect supply and demand situations. However, the rural wage rate may still be forced up by urban wages since a high rate of rural-urban migration stimulated by high urban wages decreases the supply of rural labor. Rourke ( ) in an attempt to measure trends in rural and urban wages in Ghana obtained inconclusive results, although there was some evidence that urban wages were rising faster than rural wages. Generally, however, our knowledge of the rural wage rate determination in Africa is almost non-existant.

In a broader framework the effect of wage rates on effective demand, investment, imports and inflation is an issue often overlooked in the literature. Green ( ) points out that since urban wage earnings are the primary source of demand for cash food, high wages will stimulate food production and increase rural incomes, which in turn have a multiplier effect on the economy. On the other hand, higher wages may reduce the investible surplus (although this will not be true if the increased profits are remitted abroad). Likewise, if there are particular bottlenecks in the economy, higher wages may stimulate inflation and imports. These effects underline the need to

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[6] See Working Paper #3 for a discussion of these issues.

[7] Rural wage rates are likely to be important in farmer mechanization decisions - see Working Paper #2.

incorporate wage and employment issues into a national planning framework.[8]

Crucially important in wage policy issues, is the controversy over the determination of wage rates in the modern urban sector. In the Nigerian case, for example, Kilby ( ) argues that strong trade unions through political influence have forced wages up. Weeks ( ) on the other hand believes government have been primarily instrumental in granting higher wages for "humanization, institutional and ideological reasons". Clearly these alternatives imply different approaches to wage policy. In the Kilby model, direct wage control may be difficult because of trade union influence, and indirect measures such as taxation may be necessary to implement an income and wage policy.[9]

2. Monetary Policy

Monetary policy in the developing countries is commonly cited for its contribution to factor-price distortions. In particular interest rates are often held artificially low by governments presumable as an incentive for investment. Low interest rates are not only a subsidy for capital but also a deterent to savings. Furthermore, with the demand for credit greater than the supply some method of rationing is required. This in turn favors the large scale enterprises with greater security, political power, etc. The small scale firm must borrow in the unorganized market at substantially higher rates.[10]

In addition to low interest rates, monetary policies are often blamed

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8 See Ghai ( ) for a discussion of the need for a national income policy in Kenya.

9 Other important discussions of wage rate determination in Africa include Henderson ( ), Rimmer ( ), and Warren ( ).

10 See particularly Gershenberg ( ) for a study of the lack of banks assistance to small-scale industry in Uganda. Also Kilby ( ) provides a case study of the problems of providing credit to small-scale establishments in Nigeria.

for inflation although the causes of inflation are probably deeper than just money supply. Inflation produces an even lower and possible negative rate of interest measured in real terms. Furthermore, inflation combined with an inflexible exchange rate, raises the cost of agricultural export production retarding rural development and employment.

3. Fiscal Policy

In an effort to encourage both private and domestic investments, African governments have enacted various incentives such as accelerated depreciation allowances, taxation holidays, etc. Although well known arguments such as the "infant industry" argument can be invoked to support these measures on effeciency grounds, the resulting factor-price distortions may favor adoption of capital intensive techniques. Green ( ) has suggested that the same incentives could be provided through special taxation allowances for both labor employment and investment which are neutral to factor-price ratios.

In developed countries fiscal policy, through the use of progressive income taxes, has acted as a medium for income redistribution. In contrast, African taxation revenues are heavily dependent upon export and import duties. Export taxes on agricultural products are particularly regressive since they decrease output and income in the rural areas.[11] Several authors (e.g., Johnson et. al. ( ) and Eicher et. al. ( ) and Olatunbosun ( )).have advocated the phasing out of export taxes in order to promote a rural development strategy, although this implies developing alternative methods of taxing commercial farmers and financing government programs (see Abercrompie ( )).

[11]See Olatunbosun and Olayide ( ) for a critical analysis of the Nigerian Marketing Boards and Kriesel ( ) for discussion of the Tanzanian marketing.

In recent years, African countries have used fiscal policy to directly attack the growing problem of unemployed school leavers through employment in public works and youth corps programs. Because of their recent origins, there are only a few studies to evaluate these programs.[12] Although these programs have important short run effects they are not likely to be a long term solution to the problems of unemployment and income distribution.

Finally, in developed countries, fiscal policy has often been used to promote decentralization of industry through fiscal incentives to locate industry in rural areas. As yet, little consideration has been given to this possibility in African countries, although Olatunbosun and Olayide ( ) argue a strong case for development of agriculturally based industries and supporting services in rural area.

4. Foreign Trade Policy

A persistent problem in most developing nations is the overvaluation of exchange rates brought about by continuing inflation and reluctance of governments to devalue at frequent intervals.[13] An overvalued exchange rate has several effects on the allocation of resources, all of which potentially contribute to the employment and income distribution problem. Firstly, capital goods which are usually imported duty free are made cheaper relative to labor favoring the adoption of capital intensive techniques. Secondly, import substitution industries will find it more difficult to complete with imports which are made cheaper by an overvalued exchange rate. Finally, an overvalued exchange rate lowers the price of exports. Where agricultural exports are dominant this further widens the rural-urban income disparity.

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12 See Working Paper #4 for a detailed discussion of these programs.

13 For example, Roemer ( ) estimates a 50 percent over valuation of the Ghanaian exchange rate.

With few exceptions such as Taiwan and South Korea, most developing nations have promoted industrialization through a strategy of import substitution, supported by high tariffs particularly on consumer goods. Such protection offten results in high cost capital intensive production with a limited market (e.g. automobile manufacturing). Singer ( ) also notes that many of these industries compete with labor intensive indigenous crafts displacing labor from these industries.

Several authors (e.g. Ranis ( ), Brienfield ( ), Eriksson ( ), Singer ( )), have noted the limits to import substitutions and the need to phase into an export promotion strategy, particularly in the exports of labor intensive manufactures.[14] However, they recognize that this may also require a change in tariff policies of the developed nations in order to complete more effectively. Singer ( ) lists eleven industries in which tariffs of the developed nations should be adjusted to increase the trade of developing countries. However, there has been little discussion of the price effects of many nations competing in the international market.

A further consideration which has received considerable discussion in the recent literature is the potential for regional cooperation and trade among the developing nations themselves. Although common markets and other methods of cooperation in the developing countries have had limited success, because of political difficulties there is a need to explore this possibility further if exports of the developing nations are to be expanded.[15]

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[14] Pearson and Cownie ( ) are currently conducting a study of the employment effects of expansion of exports of primary products in African countries.

[15] The recent difficulties in the East African Community highlight these political problems.

5. Foreign Aid

Several authors, (Eriksson ( ), Singer ( ), and O'Brien ( )), have discussed the role of foreign aid in promoting employment in the developing countries. Here it is necessary to distinguish between providing more aid and utilizing existing aid more effectively. Singer calls (a) for reorientating current aid policies away from project aid to program aid where some of the local costs as well as import costs are provided for in aid (b) untying of aid and (c) more emphasis on the employment impact of aid. The latter can be partly accomplished through more emphasis on agriculture. For example, Davis ( ) estimates that only 10% of all U.S. aid to Latin America is for agriculture and of this only half is for small farmers.

Although there is a need for considering the employment impacts of aid financed projects our methodology is not well developed. Use of shadow prices for labor and capital would help but the secondary employment and income distribution benefits of aid should also be evaluated.

6. Evaluation

The current literature has stressed factor-price distortions arising from government policy as being the primary cause of unemployment in the developing nations. Accordingly, most policy recommendations have centered on measures to remove these distortions through raising the interest rates

to reflect market conditions, reducing protective tariffs, fixing the wage rate and devaluing the exchange rate. As such, these policy recommendations are generally consistent with more efficient allocation of resources through the market mechanism and there is no apparent conflict between the goals of output and employment.

Implicit in almost all the arguments discussed above is the assumption (or faith) that if factor-price distortions are corrected the workings of the market mechanism will insure adoption of labor intensive techniques and the promotion of full employment. As empirical evidence several authors have cited the cases of Korea and Taiwan (e.g. Ranis ( ), and Eriksson ( )). Korea in particular has shown extremely rapid growth in both output and employment since 1965, when general economic reforms to remove factor price distortions were implemented. However, care must be taken in extrapolating from the Korean example because of special conditions, such as the massive infusion of aid,associated with Korean development. Nor is the Korean success of expanding exports of manufacturing goods necessarily transferrable on a large scale given the limitation and protection of world markets.

Some authors have recognized that it will not usually be feasible to remove factor price distortions in a single "policy package", and propose solutions to partially correct the problem. For example, Laursen and Taylor ( ) in an analysis of the unemployment problem in Columbia, propose a wage subsidy to neutralize the effects of high wage rates on factor prices. However, the problems of such a piecemeal approach are illustrated by the Harris-Todaro analysis of a wage subsidy, where urban unemployment may be increased by the resulting increase in rural-urban migration.[16]

[16]See Working Paper #3a for a fuller discussion of the Harris-Todaro Model.

Aside from the practical difficulties of implementing a "policy package" to correct factor price distortions there is an even more fundamental problem often overlooked in the literature. Even if factor-price distortions are completely removed there are several other assumptions of economic theory which must be satisfied to enable full employment to be achieved. In particular, the assumption of substitutability between labor and capital is critical. Singer ( ) suggests that lack of suitable labor intensive technology is a key problem since most technology is derived from the developed countries under very different factor price ratios. Todaro ( ) too feels that development of a suitable labor intensive technology is a high priority research area.

The recent work of Hayami and Ruttan ( ) suggests that factor prices have an important bearing on the development of new technology. In an analysis of agriucltural development in the U. S. and Japan, Hayami and Ruttan show how different factor-price conditions prevailing in those countries lead to very different directions in technological progress, with the U. S. leading the way in labor-saving technology and Japan dominating the development of land-saving technology. An important aspect of their aguement is that <u>both</u> private and public research to develop new technologies, is responsive to factor prices. Thus the Hayami-Ruttan model of induced technological change suggests that factor price distortions may encourage not only the adoption of existing capital intensive techniques but also the further development of capital intensive techniques, in the face of growing unemployment.

In conclusion, macro-economic policies may have important effects on rural development through the allocation of resources between agriculture and non-agriculture, the choice of technique within agriculture and the development of new techniques. The current literature has largely recited a list of factor-price distortions with little rigorous analysis of their effects.

The available evidence would suggest that correction of factor-price distortions are a necessary but not a sufficient condition for reducing unemployment.

III Relationship of Rural Development to National Goals

Any strategy of promoting rural incomes and rural employment must ultimately be evaluated by the overall impact on national development goals of growth, employment and income redistribution. This requires recognition of two broad linkages between agriculture and non-agriculture. Firstly, there are various flows of goods and services for production, consumption and investment between the two sectors. Secondly, agriculture and non-agriculture interact in the factor markets to determine the allocation of labor and capital between the two sectors. Through these, macro-economic linkages, increases in agricultural incomes and employment have important effects on non-agricultural incomes, and employment. Likewise there are important feedback effects of changes in nonagricultural incomes and employment on the rural economy. In this section, the various models developed to describe these linkages are discussed. We shall not be concerned with how increases in rural incomes and employment are generated but rather what the macro-economic effects of such increases would be.[17]

Relevance of Dual Economy Models

The well known dual economy models are attempts to describe the growth process at a highly aggregated level in terms of the interactions between the traditional agricultural and modern nonagricultural sectors.

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[17]The generation of income and employment in rural areas is discussed in Working Paper #4.

These models have been criticized for (a) simplistic and often unrealistic assumptions and (b) their failure to address the questions of income distribution and employment.[18] Models of dual economics have also suffered from lack of empirical knowledge about the interactions between the sectors of the economy. Thus only a few studies exist which explore the sectoral interactions in the factor markets (e.g. Lee ( ) for capital markets and Todaro ( ) for labor markets). But even so, the complexity of agricultural - nonagricultural interactions makes it very difficult to construct a general mathematical model which is conceptually useful for analysing the impact of rural development on the total economy.

More recently, several authors have attempted to incorporate the problems of employment and income distribution into a dual economy framework. Mellor and Lele ( ) construct a model to explore the effects of the generation of an agricultural surplus (through the impact of high yielding varieties) on national output, income distribution and employment. In particular they note that with the price elasticity of demand for food less than unity the agricultural surplus will result in an income redistribution from land owners to capitalists leading to increases in nonagricultural output and employment. The Mellor-Lele model in addition to emphasizing employment and income distribution, incorporates added realism in the modeling of intersectoral flows of goods and services and the determination of the terms of trade between the sectors. However, the model inherits many of the earlier weaknesses of dual economy models particularly in their treatment of the sectoral allocation of capital and labor. Furthermore their assumptions of a closed economy with landlord and tenant farmers suggests an "India model" and considerable modification

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[18]Useful reviews of the dual economy models are found in Ruttan ( ), Reynolds ( ) and Lele ( ).

is required for application to the African situation.

Harris and Todaro explicitly consider the urban unemployment problem in a two sector framework. The Harris-Todaro model focuses on the process of labor migration between agriculture and nonagriculture hypothesizing that the rate of off-farm migration is a function of the rural - urban income differential weighted by the probability of a migrant finding a job in urban areas. Although the model is not strictly a growth model it does demonstrate the futility of rapid industrial development and the need to emphasize rural development. But again, Harris and Todaro focus on labor allocation between rural and urban areas ignoring several other important interactions between the sectors.

Several authors have explored agriculture's role in development in empirical case studies, with the more recent studies considering employment and income distribution. Thorbecke ( ) demonstrates the use of input-output techniques to analyze aggregate income distribution patterns. Byerlee ( ) using simulation techniques explores the impact of agricultural policies on total output and aggregate income distribution. These approaches are of course, limited by the theoretical base on which they are constructed and the use of static coefficients such as input-output coefficients. However, these models do enable consideration of a range of intersectoral intereactions which would render a theoretical model mathematically insolvable.[19]

In summary, the present theoretical and empirical knowledge of intersectoral linkages is inadequate for analysing the macro-economic effects of

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[19]See particularly Reynolds ( ) for a discussion of teh limitations of a theoretical model to analyze a large number of sectoral interactions.

increases in rural incomes and employment particularly when employment and income redistribution are considered as goals of development. Some theoretical models have value in analyzing one particular intersectoral linkage (e.g. the Harris-Todaro analysis of labor allocation) but these models usually ignore several other important interactions.

IV. Research Implications

From the foregoing review, we can establish a list of priority research topics needed if the macro-economic implications of rural development and employment are to be adequately analyzed.

1. Research to analyze the effects of macro-economic policy on rural development and employment.
   (a) Wage rates - What is the affect of national wage policies on rural wages?
   (b) Monetary Policy - How does national monetary policy affect the availability of credit in rural areas? Also, how does inflation affect rural income distribution, particularly incomes of food producers and export crop producers?
   (c) Fiscal Policy - What are the implications of phasing out export taxes and replacing by a national incomes policy?
   (d) How do factor price distortions affect (i) the choice of techniques in agriculture and (ii) the development of new mechanical techniques?

2. Research to analyze the effects of rural development and employment generation on the macro-economy.
   The research should focus on answers to the following questions:
   (a) If agricultural incomes and employment are increased what is the multiplier effect of increased agricultural production, consumption and investment on nonagricultural income and employment and how much

of this is fed back to the agricultural sector in the form of increased food consumption of the nonagricultural population?

(b) If agricultural incomes and employment are increased what is the effect on rural-urban migration and consequently urban unemployment?

(c) If agricultural output is increased what is the effect on agriculture's terms of trade? In particular, how does a change in terms of trade affect aggregate income distribution?

(d) How is intersectoral allocation of investment affected by increases in agricultural incomes? For example, is additional investment attracted to agriculture or is the agricultural surplus invested in the nonagricultural sector?

Answers to these questions imply empirical research to determine:

(1) The price and income elasticities of rural and urban consumers for food and non-food goods.

(2) The factors affecting the intersectoral transfer of investment funds.

(3) The effects of changes in food prices on real incomes and income distribution in rural and urban areas.

(4) The effects of changing rural incomes on rural-urban migration (See Working Paper #3a for discussion of this research.)

No specific methodology is proposed for integrating the results of the empirical research into a framework suitable for addressing the questions posed above. In Nigeria, the simulation model of the agricultural economy may be useful, particularly as more data and theoretical knowledge become available through empirical research.

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