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# Balanced Development:

## An Approach to Development Policy and Priorities

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## 1. Introduction

Given the *World Bank's* recognition of poverty as its 'overarching' concern, the development community is now that much closer to consensus on the proposition that economic growth is not the objective of development policy nor even the most useful measure of its success: development is both different in kind from economic growth and broader in scope. Some would go much further, and the capabilities approach that has been conceptualized by Sen and articulated for a wider audience by the *United Nations Development Program* (UNDP) in its annual series of *Human Development Reports* (HDRs) rejects the role of prices as an index of marginal utility or as the definitive measure of scarcity. Ultimately it leads, as in the HDR for the year 2000, to the setting of targets for human development *via* some (unspecified) political process as an alternative to allowing markets to orchestrate the allocation of resources. Others, who also recognize that economic growth is not the ultimate objective, none-the-less maintain that, in the long-run, the pursuit of economic growth offers the best prospects for raising living standards and is, therefore, not only a necessary concern of domestic policy but could be sufficient if only the political processes within a country were guided by the enlightened self-interest of its people.

Between these very different points of view lies the middle ground, much of it occupied by variants of the proposition that the *quality* of growth also matters. However, some of these variants are more explicit than others in characterizing what is meant by the 'quality' of a growth process. Those, which emphasize the economic aspects of development typically, suggest that quality growth and 'broad-based' growth are more or less synonymous. However, from an *ex ante* point of view there is clearly an important difference between labor-intensive growth and the central thesis of *Redistribution with Growth* which emphasizes the accumulation of assets by those who are relatively poor. And, while both of these could result *ex post* in growth being 'broad-based', it does not then follow that growth will necessarily be 'pro-poor' *i.e.* that the growth process will entail the progressive reduction of income inequalities or *a fortiori* that the long-run growth of average income within the poorest group in society will have been maximized, as prescribed by Rawls in *A Theory of Justice* (Rawls [1971]).

The approach to development policy that is outlined here supports the notion that the quality of growth matters. However, to give content to this sentiment and, not least, in order to design suitable

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policies, we need a more specific approach to the issues, backed-up by a model or conceptual framework that describes the way in which we think living standards are determined. Accordingly, an important theme in this paper will be to outline what I think would be two useful contributions towards a better model of crucial mechanisms and to develop some of their implications.

The substantive argument that begins in the next section of the paper recognizes that the determinants of living standards are to be found not only at the macro (economy-wide) and at the micro (individual/household) levels of society, but also at the international level and, again, at the meso (structural) level. A first step, therefore, is to appreciate the interdependence of policies at each of these levels and the evident need for co-ordination.

Following this, in *Section 3*, I discuss three different approaches to policy formulation which offer alternative ways of translating a desire to raise living standards and a concern for the poor into operational policies that modify or supplement the role of the market in the interest of development. One of these is to set targets as suggested above and another, which is essentially competitive, is to make extensive use of cost-benefit analysis, if only as a conceptual framework, to guide the allocation of resources in cases of market failure and, more generally, in the public interest. A third, complementary approach, emphasizes the value of empirical studies of what has and what has not worked in different countries so that some of the lessons of history might be put to good use.

With these general considerations by way of background, *Sections 4* and *5* of the paper outline two modifications of the conventional neo-classical approach to the analysis of growth and development which I think are improvements *i.e.* that they would result in more realistic models and hence are likely to lead to better (more realistic) policies. The first concerns the way in which we model the household and this is discussed in *Section 5*. The second, which is introduced in *Section 6*, describes production processes in the formal sector and the nature of technology. Neither is new - the former dates back to the work of Chayanov and Becker [1964 and 1965] and builds on the subsequent literature which views the household as being simultaneously both a consumer and producer. It has various implications, not least of which is to emphasize the importance of the labor market. Similarly, the putty-clay vintage model of production processes, as pioneered by Johanson [1959] and Salter [1960] and developed subsequently by various authors, emphasizes the complementarity of labor and capital in the short-term and the fact that there can be no long-term that

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it is any different from the short-run without investment in the interim. Taken in conjunction, these innovations relative to standard thinking give theoretical content to what we already know empirically, namely that employment and investment should be at the center of development policy concerns.

Finally, the role of government is discussed in *Section 6*. For the most part, this discussion proceeds on conventional lines that emphasize the importance of both monetary and fiscal policy. However, an implication of the alternative model of the household proposed in *Section 4* is that the costs of maintaining human capital should be deducted from the standard measures of the gross domestic product to obtain a more appropriate quantification of value added. And, by implication, basic needs should be exempt from VAT. A further implication is that conventional institutional arrangements which support separate recurrent and development budgets make less sense when the provision of health and education services are recognized as investments in human capital. Since these budgetary arrangements can lead to major distortions in the use of public funds, it is suggested that they should be reviewed.

## **2. Determinants of living standards and levels of aggregation**

A first step in trying to give content to the notion of quality growth is to identify the basic determinants of living standards. *Figure 1* is an attempt to do so which suggests that well-being is founded on rights, which include property rights and entitlements, and therefore on a somewhat broader concept than the real asset base - land, housing, tools, etc. - which economists have tended to focus on in the past. This asset base is a stock and the main role of the economic system is to use this stock to generate a flow of goods and services *via* production activities, which are defined in the figure to include reproduction also, *i.e.* the raising of the next generation. How well this process works must depend on the context within which production and reproduction take place, *i.e.* on the efficiency of markets, on the institutional framework (not least the family) and on the quality of governance, *etc.*

At the next level up in *Figure 1* we arrive at individual capabilities and opportunities, which have been endorsed as the essential objectives of development by the UNDP, through its annual series of *Human Development Reports*.

There has been some discussion of the extent to which the capabilities approach ultimately leads to different policy priorities to those of the *World Bank* as set out in the *World Development Report 1990*. Here, two general observations may be helpful. First, it is clear that Sen's notion of capabilities is broader than the conventional consumption opportunity set, since it includes opportunities and entitlements which cannot be delivered by markets and derive instead from family ties and community. It then follows that the expansion of the consumption opportunity set is a part of what Sen means by development but not the whole story. In this sense, economic growth is characteristic of development but not synonymous. A second and different point is that the way in which economic growth is conventionally measured is exceptionable. This is in part a reflection of current conventions as to what to include and what to leave out when measuring individual incomes or, at the national level, the gross domestic product. Giving more attention to non-market activities and basing comparisons between individuals and countries on purchasing power parities goes some way towards meeting these concerns. However, it is unlikely that such developments would be seen by the authors of the *Human Development Report* as being sufficient to meet their objections, which relate not only to what is included and what is left out, but also to the aggregation of individual capabilities using market prices as weights. To date, no alternative system of weighting has been proposed. Yet, without some system of weighting or valuation, there is no way of aggregating the various ingredients of well being into a single aggregate measure. Accordingly, the alternative to an explicit system of values is to analyze options in terms of vectors of capabilities and to accept the implication that policy options can, at best, be weakly ordered. Faced with this prospect, most economists would prefer to accept the opportunity cost of scarce resources as being a useful value system and hence a way of arriving at aggregates, such as total consumption, and to accept that, while total consumption so determined is a useful index of well-being, it is far from being the only measure that is interesting. Sen must be correct in suggesting that life expectation might be a useful alternative measure and that such alternatives are not perfectly correlated. It therefore makes a difference which one is chosen.

One considerable advantage which follows from a willingness to entertain a single, metric measure of living standards, based on consumption, say, is that it simplifies the quest for causes of well-being or the lack thereof, which is poverty. However, this does not mean that causes are easy

to identify. On the contrary, this is a difficult area and the more so because the causes of poverty have to be understood relative to a level of aggregation if the fallacy of composition is to be avoided.

To clarify these concerns *Figure 2* recognizes four levels of aggregation, each of which is relevant to poverty analysis and all of which can usefully be disaggregated to recognize more detail. For example, the micro level can be disaggregated further to recognize individuals as distinct from households, and this distinction is important if analysis is to address the inequality that maintains within households, often along gender lines. An example of the fallacy of composition at this level would be to suggest that because those women who have relatively more children may be better off (because their land entitlement under traditional systems may be greater and/or because their older children can help with productive and reproductive responsibilities) then all women might be better off if they had more children. Similarly, while it is true that those who are better educated tend to have higher living standards, it does not follow that increasing human capital will cause an economy to develop: it may instead lead to the pervasive unemployment of educated youth, depending on the balance between education, on the one hand, and the creation of job opportunities on the other.

At the next level up from the micro, *i.e.* at the meso level of analysis, we find all the structural features of an economy, which include the communities in which people live, the production sectors into which all economic activity is divided, and the markets through which goods and services change hands.

The distinction between the micro and meso levels of analysis is important because it reflects the distinction between prices and quantities. At the micro level commodity prices and wage rates are typically exogenous, so it may be reasonable to claim that low wages and high prices are causes of poverty at this level. However, at the meso level and above, wages and prices are endogenous: they depend on the interplay of demand and supply. Thus, from a meso perspective, the level of wages is determined by whatever it is that determines demand and supply in the labor market. It would then be a major fallacy of composition to suggest that if all wage rates were higher, there would be less poverty. On the contrary, it is likely that higher wage rates would cause unemployment and therefore increase poverty. Similarly, at the micro level, small holders who achieve high yields tend to be better off. But if all small holders were to achieve higher yields then they would all be better off only if the price elasticity of demand for their produce was greater than one. This condition

will often be satisfied, but it is not out of the question for higher output to lower prices by glutting the market.

Many of the mechanisms that operate at the meso level are a translation to the sectoral and local level of policies and attitudes that are set at the macro level. These include political attitudes to the role of the private sector (NGOs and business) to law and order and to good governance, all of which effect poverty *via*, for example, their influence on investment, and therefore, on growth. More importantly, they can also effect poverty and well being directly, through human rights, for example. Otherwise, it is at the macroeconomic level that monetary and fiscal policies are determined. These are the foundations on which the system of economic incentives is built. The best efforts of private entrepreneurs, and the self-employed in the informal sector can all be frustrated by bad macro-economic policies which prejudice their chances of thriving. In sub-Saharan Africa, in particular, bad economic policies through the 1970s and 1980s remain a major cause of poverty to-day and many of the countries in that region have yet to regain the level of income *per head* that they previously enjoyed.

But the importance of macro-economic policies notwithstanding, some blame for contemporary poverty should be apportioned at a level of aggregation above that of the nation state *viz.* the international economy. In that arena, the countries of sub-Saharan Africa are small players and can hardly be responsible for the changes in the international environment which took place *circa* 1980 - '82. At most they could be blamed for not having foreseen these changes and making appropriate contingent plans or for reacting too slowly. But this is a blame that must evidently be shared in some measure with their advisors. And whatever the verdict of history might be on this matter, it will remain the case that the present overhang of international debts and the need to service them remain as major problems for years to come: they may not be the only cause of poverty today, but they undoubtedly constrain the ability of governments to alleviate poverty, both now and for the foreseeable future. Sound macro-economic policies have that much less to offer in mobilizing resources for a poverty alleviation strategy if such a strategy is crowded-out by obligations to service debt.

What, then, are the causes of poverty and where are they to be found ? The answer must be that they are to be found at every level from the individual to the global. It then follows that the

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design of strategy needs to address each and every level in turn. But the ordering is potentially crucial because, for any given level, what happens at a higher level of aggregation is (more or less) exogenous and, therefore, must be taken as given. It follows that the quest for appropriate policies must begin at the highest level and work down. Solutions to the problem of poverty must therefore start at the global level with trade issues, debt and the international migration of labor and capital and only work down to a consideration of the lower levels when the potential for policy interventions into the higher strata is exhausted. And, as we follow such a procedure, working down through the various levels of aggregation, we will eventually be left with those individuals who, for one reason or another, have not been able to catch the drift of the mainstream of development as it emerges by some combination of chance and the policies that have been selected at levels beyond their influence. These are the individuals who, through no fault of their own, have been marginalized by the tide of affairs. These are the poor who are potentially destitute and therefore in greatest need of help.

### **3. Alternative approaches to development policy**

The notion of balanced development that is invoked in this paper refers, in the first instance, to the need for balance in the allocation of resources within and between the economic and social sectors. It therefore suggests an emphasis that is hardly new: the same concern can be found in the *Report on the World Social Situation* published by the United Nations in 1961, the full title of which is “Report on the World Social Situation: with special reference to the problem of balanced social and economic development” More recently, this same theme has been resurrected by the UNDP within the context of its annual series of HDRs. There is a surprising degree of continuity between these two sources, despite the gap of twenty years.

The starting point for the unknown authors of the UN studies was to emphasize the various ways in which economic and social development are interlinked. They begin with the proposition that the ‘importance of economic development as a means to social ends’ is well known and can be taken as being more or less self-evident. The complementary argument, that social development is important for economic growth, is then developed in stages, the first of which is to note how social factors can impede such growth in various ways. The potential obstacles are elaborated under three headings: (i) population growth; (ii) institutional factors, such as a caste system; and (iii) individual

factors, which are defined to include motivations and attitudes, not least in relation to savings and entrepreneurship. Set against these potential obstacles are the many positive ways in which social development expenditures can support economic growth, with the primary example being investment in human capital. Health and education are singled out for special mention in this connection and it is suggested that there is no adequate way of distinguishing the economic benefits of such expenditures as distinct from their social implications. The report indicates that it would be (extremely) difficult to define the size of the eventual economic returns from a sewage disposal scheme or the building of a hospital (United Nations 1961: p 33) and that "The possible contribution of [a] school to material production is beyond measurement at the present time but not beyond conception" (United Nations 1961, p. 35).

Today, some thirty years on, it may be realistic to express somewhat greater optimism over the prospects of measuring the economic benefits of a school. Indeed, it is precisely that possibility which will be invoked here to suggest that across a wide range of policy concerns a calculus of economic costs and benefits can be conceptualized and, indeed, implemented as a way of ensuring that a sensible balance is struck between the use of resources to promote economic growth and the broader agenda that is addressed by social policy.

In adopting this position it is interesting to note that the authors of the 1961 UN report were evidently worried about something other than the technical difficulties of cost-benefit analysis. Specifically, they were concerned that precise knowledge of the interactions and interdependencies between economic and social variables 'will not *fully* indicate what the pattern of development ought to be, because questions of value also come in - the value to be placed upon, say, education for its own sake' [United Nations 1961, p. 38, emphasis added]. Faced with this undeniably reasonable proposition, the question of what to do about it cannot be avoided. There seem to be several possibilities. One would be to proceed, the difficulties notwithstanding, to conceptualize the computation of economic costs and benefits. Back in 1961, this might not have appeared as an attractive option, since the necessary theoretical developments were only just beginning to emerge. Today, however, it is much more realistic. An alternative approach which is hinted at in the UN study, is to set targets:

the concept of balanced development clearly means for most people who use the term, an appropriate relation between economic and social factors - giving to each field or sector of development the attention it deserves in the total complex. It thus implies in the first instance a value or goal, something to be sought (even if only dimly perceived) (United Nations 1961 p. 37).

This contrast between cost-benefit analysis and the setting of targets re-emerged in the early country studies undertaken by UNDP under the auspices of its HDR activities. Griffen and McKinley [1994] set out some elements of the debate these studies gave rise to, with the case for using cost-benefit analysis as a foundation for balanced development being promoted in the country study for Pakistan. To judge from the latest HDR, it seems that, within UNDP, this debate has now been resolved in favor of the alternative approach which depends on setting targets for social objectives.

As an alternative to both of the above approaches, the 1961 UN study considers a third possibility, which is to explore the actual experience of countries by looking for patterns in cross-section data in an attempt to identify what actually seems to work and what does not. We can refer to this third possibility as the empirical approach.

In opting for the empirical approach, the 1961 UN report provides an illuminating analysis of the relationship between gross domestic product and various social indicators such as infant mortality, life expectation, school enrolment, calorie intake, etc. With due respect for the limitations of these data, various outliers are identified. For example, exceptionally good school enrolment ratios, relative to the gross domestic product, are noted for Ireland, Japan, Sri Lanka, Taipei, China and Thailand, with a correspondingly poor performance being recorded for Venezuela and Cuba. Similar results for infant mortality show Greece, Japan and Taipei, China as doing well, while Chile and the former Borneo joins Venezuela and Cuba as poor performers.

These various analyses were undertaken in the 1961 UN study on the basis that the standard of living of a population - or, better, the 'level of living' - must be regarded as a set of components (health, nutrition, education, housing, employment conditions, etc.) which cannot be reduced to a single index. In so far as the level of living is measurable, it must be expressed, not as a single quantity, but as a pattern of non-convertible quantities. The fact that the level of living is not to be

defined as *per capita* national income does not deny, however, the underlying importance of growth of national income for the improvement of welfare.

It follows from the above that it is impossible to say on any systematic grounds what a country's level in health, education, or other social component should be, given its level of economic development; or, again, what percentage of its national income it should expend in these fields. If an economically under-developed country is only one-third literate and has only one-third of its children in school, there is no standard which will demonstrate that, say, one-half of the people should be literate and one-half of the children in school. Obviously, everyone should be literate and all children should be in school. (United Nations 1961, p. 38).

No doubt we can all agree to that. But the issue which concerns policy today is not to determine where we eventually want to be, but how to proceed from wherever we are at. It is in recognition of this practical need to proceed on an incremental basis that the UN study makes its strongest plea for comparative studies of experience in different countries:

If countries have a long historical experience in development and a familiarity with the interactions of economic and social factors, plus an educated population aware of its needs and articulate about its values, and a leadership skilled in the analysis of alternative proposals, then the process of legislative debate and political decision may well be adequate to deal with questions of balanced development. But many less developed countries have no such historical experience to guide them. [They lack most or all of the above]. In these circumstances Governments have been interested in finding guidance in the experience of other countries (United Nations 1961, p. 38 – 9).

Given that we now have some 50 years of development experience that is reasonably well documented, the necessary raw material for serious historical studies is increasingly available. Their unique contribution would be to set present development problems in their proper historical context and hence to displace the rhetoric that can otherwise inhibit our understanding of the issues.

## 4. Human capital and living standards

### 4.1 *The money metric*

In 1980, and with some reluctance, the *World Bank* launched the *Living Standard Measurement Study* (LSMS) which has subsequently provided a major stimulus for making data available on various aspects of household living standards and, in particular, on the distribution of the money metric, which is typically measured by consumption or income *per head* at the household level.

Ten years later, following 'the lost decade' of the 1980s, the *World Bank* reaffirmed its erstwhile concern with poverty and initiated a program of *Poverty Assessments* in borrowing countries. Relatively soon these became dependent on the availability of data of the type promoted by the LSMS and a style of analysis was established that I have characterized elsewhere as the statistical approach.

This approach has three elements, the first of which assumes that the living standard of each individual or household can be estimated from survey data. It then follows, as a second step, that the frequency distribution of the metric can be estimated and hence, as a third step, that overall inequality and poverty can be measured. In so far as all this is possible, the statistical approach can support analyses of the extent to which growth necessarily entails greater inequality and/or a reduction in poverty *via* the calibration of Kuznets curves (using time-series data) the estimation of poverty elasticities, *etc.* Unfortunately, none of the analyses of this genre that have been reported to-date are particularly persuasive and, even if they were, they are inherently incapable of taking us appreciably closer to the identification of suitable policies: they suggest that growth is important but have little to say about the content of growth, mainly because they make little or no reference to economic structure. Similarly, at the micro level, the fact that the money metric may be correlated with individual characteristics, such as education, may imply very little that is policy relevant. In particular, it does not imply that increasing the resources devoted to education will necessarily raise living standards now or in the future since to assume that it did would be to risk a fallacy of composition as discussed above in *Section 3*.

A further source of difficulty is that poverty is defined differently in each *Poverty Assessment* with the poverty line being defined independently for each country but in such a way that the

incidence of poverty usually lies within a range from 30 to 50 *percent*. This has the dubious advantage that poverty is invariably a substantive issue to be discussed as part of the policy dialogue for each country, *i.e.* every country has some. The main disadvantage is that the nature of poverty and the identity of the poor varies, depending on where the line is drawn. The cross-fertilization of ideas between countries is discouraged accordingly. For this and other reasons, a review that was undertaken in 1995/6 of all the *Poverty Assessments* that had been conducted in countries within sub-Saharan Africa concluded that they had generated little more than an accumulation of facts (correlations) as distinct from a corpus of knowledge or understanding. The limitations are quite basic. For example the *Poverty Assessments* are typically unable to establish whether the incidence of poverty is greater or less in rural areas and whether the wage for unskilled labor has gone up or down relative to the cost of wage goods. Indeed, the *Poverty Assessments* for sub-Saharan Africa have little or nothing to say about employment. It is therefore not surprising that the policy recommendations promoted rarely modify or venture beyond the two-pronged approach of their antecedent, the *World Development Report, 1990* which emphasizes the importance of growth and human capital formation, with the added rider that safety nets may be needed since the structural adjustments that are typically required to establish the preconditions for growth will inevitably result in some casualties.

#### ***4.2 The household as consumer and producer***

The failure of the *Poverty Assessments* can be attributed in part to their reliance on the money metric approach. Accordingly, a better model is needed, and preferably one that recognizes that individuals and households are located at the intersection of the cash and non-cash economies. The main limitation of the metric approach is to assume away much of the complexity that this implies.

*Figure 2* illustrates the interdependence of the consumption and production decisions of a household. The curve AA' represents the production opportunity set, which is defined for negative as well as positive levels of net output for each of the two commodities represented on the diagram on the understanding that a negative net-out means that the household buys-in that particular commodity.

The slope of the line BB' is determined by the relative prices of the two goods so that total revenue is maximized if the household produces the combination of goods represented by point D. From the point of view of consumption, the line BB' is the budget constraint and utility is maximized if the household consumes the combination of goods represented by point E. Hence the difference between points D and E implies that, in this illustration, the household buys *commodity 2* for both intermediate and final consumption; and it produces *commodity 1* at a level in excess of its final consumption requirements, selling the surplus in order to pay for all its requirements of *commodity 1*.

The salient elements of this formulation are, firstly, that the production opportunity set defined by the curve AA' defines the capabilities of the household in commodity space - as capabilities expand, so will the production opportunity set. More specifically, the location of the frontier AA' will depend, in the first instance, on the way in which a household allocates its time. On a *per capita* basis each household has the same time endowment but, otherwise, the circumstances of each household will differ according to the skills of its members, their complementary assets (tools, housing, land), and their access to facilities (transport, schools, health centers etc.). The line AA' is therefore determined by a household's *assets, access and abilities*, and the dependency ratio.

Given these, the line BB' depends on the relative prices of the goods and services that the household buys and sells, *i.e.* on the terms of trade that are relevant to its particular circumstances. Hence the consumption point E and, therefore, the household's living standard (to the extent that this is determined by what it consumes) will depend on access, assets and abilities *via* the location of AA' and also on the terms of trade it has to contend with for those goods that it has to buy and sell.

This characterization of the household can be modified and enriched in various ways without changing the basic implications which are that, with a given dependency ratio, the living standard of a household can be raised by

- (i) encouraging the accumulation of assets (tools, housing, land, etc.);
- (ii) providing better access to basic services (markets, clinics, potable water);
- (iii) enhancing abilities *via* education, training, learning-by-doing and better health care; and
- (iv) improving the household's terms of trade with the cash economy.

In particular, the model can be generalized to allow for non-traded goods, such as leisure and the caring of one member of the household for another. In this sense, the formulation can recognize the non-market contributions of women to the household and the demands on their time that are made as a result. These demands have an opportunity cost which is, of course, captured by the shadow price of the services provided. An additional, technical point is that the formulation suggests a direct link with the concept of human capital in so far as the location of AA' otherwise depends on the household's non-human capital and supporting infrastructure. An alternative interpretation, therefore, is that the location of the line AA' depends on the real assets owned by the household, supporting infrastructure and human capital endowment.

In much the same spirit as above, the location of the line BB' can be seen as depending on a notional measure of the household's income and on prices in a way that is analogous to that which supports the money-metric approach. However, there is an important difference since the money-metric approach assumes that all households face the same prices, with the relevant set of prices being the prices of final consumption goods and services. *Figure 2* is essentially different in so far as the only prices that matter are those of the goods and services that are actually traded, and these include goods and services that are purchased for intermediate use such as seed and fertilizer. They also include the prices of different types of labor services that a household might sell in the cash economy or buy-in according to its needs e.g. for plowing. The proposition that all households face the same prices (and that the opportunity costs of non-traded goods are also similar) may therefore be approximated within relatively homogeneous socio-economic groups but otherwise be unsustainable. A metric might therefore be useful in analyzing inequality and poverty within such groups, but its distribution across an entire population is likely to conceal more than it reveals. Hence the statistical approach to the distribution of living standards should not be relied on and a more constructive way forward could start with the disaggregation of the population into socio-economic categories and then proceed to explore the determinants of living standards within each group in the context of a structural (meso-level) model and accounting framework.

One particular implication of such an approach is that the results of household surveys, especially those relating to sources of cash income and expenditures, would need to be fully reconciled with, and integrated into, the national accounts in order that a consistent and coherent

story might emerge about the various ways (direct and indirect) that the distribution of income and the structure of production are inextricably interwoven. One of the original ambitions of the LSMS was to promote such a synthesis so that the design of policies at the meso-level might be fully integrated into the total policy package. It is a matter for regret that this has not yet happened and, meanwhile, evidence is accumulating of serious inconsistencies between what household surveys and the national accounts have to say about trends in consumption *per head*.

A further implication of the proposed approach is that the initial impact of adjustment policies at the household level will be transmitted *via* the household's terms of trade and job opportunities, these being the most important elements of the interface of many households with the cash economy. If agricultural price supports are withdrawn, then this will have an obvious and immediate impact on the farmers effected *via* their terms of trade. Similarly, the model emphasizes the sense in which the improvement of employment prospects must be a critical element in any policy package that seeks to achieve a broadly-based improvement in living standards. Conversely, if the labor market collapses, then households are going to have to sell-off some of their assets (if they have any) or rely on transfers (safety nets).

## **5. Production technology**

### ***5.1 Production as a stock-flow relationship.***

Contemporary models of economic and social development such as Thomas *et al* [2000] typically assume that production is a stock-flow relationship with output being generated by combining the services that can be provided by different types of capital in the context of a system of incentives. The starting point for modeling production processes is therefore what is often referred to as an 'AK model' within which physical capital, human capital and environmental capital are normally recognized and separately distinguished. For some purposes some authors add working capital and social capital to this list. But to do so raises complications. Working capital is essentially a financial asset and therefore different in kind from other forms; and both Arrow and Solow have queried the sense in which social capital is comparable to physical capital. More generally, there is a long-standing debate as to whether the stock of wealth that is accounted for by any of the different forms of capital can be usefully factored into a meaningful measure of quantity and a unit value or price.

This is important in so far as the standard AK model assumes that this issue can be resolved in favor of meaningful quantum measurement, and that quantities of different types of capital can be substituted, one for another. In particular, it is typically assumed that physical capital and labor (human capital) can be substituted for each other.

An alternative formulation which does not rely on the measurement of capital is sufficient for present purposes and arguably more realistic. It assumes that stocks of physical capital, human capital and natural resources are enumerable but not measurable, *i.e.* that the elements of these stocks can be listed but there is no aggregate quantum measure for each. It then follows that, for each type of capital, new investment, maintenance and depletion have to be interpreted directly as in *Table 2*. And the meaning of balanced development can now be extended to imply that, in principle, decisions as to what to invest in, how much to spend on the maintenance of particular assets, and how fast to deplete natural resources can all be evaluated in comparable terms using cost-benefit analysis. A balanced approach now requires that only the most attractive projects should be pursued and, in this general sense, that 'crowding-out' should be avoided. It also means that, in the first instance, the balanced development of the social sectors will be achieved if, for example, rates of investment in human capital and the level of maintenance of the stock are determined on their merits relative to alternative ways of spending public revenues. In other words, we can promote a supply-side argument in support of social sector activities *via* their impact on human capital.

### ***3.2 The putty-clay vintage model***

A second sense in which the proposed treatment of different types of capital would allow an injection of greater realism into the analysis of development concerns is its potential consistency with the fact that, in the real world, the services provided by different types of capital have to be used in more or less fixed proportions that are determined *via* the choice of technique that is made (with or without the guidance available through cost-benefit analysis) when a new investment is undertaken. This leads to what is generally known as the putty-clay vintage model of production processes, the salient characteristic of which is that value added *per worker* is highest in the most recently installed plants so that profit *per worker* decreases with the age of the technology. At any one point in time,

technologies from a range of vintages will remain in operation while the oldest plants, for which the value added *per worker* is less than the wage, will be obsolescent: typically, they will be scrapped.

This formulation introduces an important asymmetry into the relationship between employment and wages. If the net output price of some activity falls, perhaps because a protective tariff is reduced, then either the wage must fall proportionately or some plants will cease to be profitable and employment will fall. However, if the net output price rises relative to the wage, there will be no increase in employment unless and until new investment creates new jobs. So, given a relatively sticky money wage, a fall in demand will impact directly on employment, while an increase in demand will tend to raise profits with no extra jobs being created unless and until investment in new capacity is induced. Alternatively, given the net output price, while a rise in wages will result in a loss of jobs and output, a fall in wages will not, of itself, create new employment opportunities or an increase in output (except to the extent that any excess capacity might now come into operation.)

It follows from this description that the implications of a change in real wages in a putty-clay model are different from those implicit in the standard neo-classical model because the latter has substitution possibilities: when real wages fall in a Solow/Swan model, the capital/labor ratio falls, implying that, with a given (fixed) stock of capital, employment increases. Experience of structural adjustment programs in many countries suggests that the putty-clay formulation is more realistic. It implies that, if we want to maintain employment through a period of adjustment, the speed of current account liberalization must be closely geared to the rate at which new jobs are being created *via* new investment.

This empirical support for the vintage model is reinforced by theoretical considerations which are discussed in Pyatt [1964] where it is shown that the vintage model implies a relationship over time of the form

$$g = \alpha l + \rho i$$

where  $g$  is the rate of growth of output,  $l$  is the rate of growth of employment and  $i$  is investment, expressed as a reaction of the gross domestic product. Moreover, the theory also suggests that the parameter  $\alpha$  should approximate the share of wages in value added and that  $\rho$  should be a rate of profit on new investment. Several other authors have found empirical support for such a relationship, among them Scott [1982].

Similarly, several authors have explored the long-run, steady state properties of the vintage model, including Solow *et al* [1966] who find that the behavior of vintage models is very similar to that of the standard Solow/Swan neo-classical formulation. The latter can therefore be seen as a surrogate for the former in the steady state according to Solow [1970]. By implication, in the real world (which is never in steady state) the vintage model is arguably to be preferred as a point of departure for the analysis of adjustment processes and convergence because it offers a better characterization of the likely implications of specific policies that might otherwise prove to be more severe than their proponents intended. We have seen in the previous section that employment is an important determinant of the welfare of individuals and households. To this we can now add that, given the putty-clay model of production processes, investment in new technologies, which creates new opportunities for learning-by-doing and a demand for new skills, is an essential mechanism for raising living standards. Equally, a program of rapid liberalization is likely to result in a rapid loss of jobs. So, new jobs depend on new investment which, in turn, may not be forthcoming without reforms, the immediate effect of which may be a loss of jobs. Clearly, policy should seek to balance this loss of old jobs against the creation of new ones. The determinants of the rate of investment are important accordingly, not least the dependence of investment on incentive reforms. To bias investment in the direction of labor intensive techniques is probably an inappropriate policy response. A more appropriate approach may be to encourage the use of modern technology in producing those goods and services the production of which is inherently labor intensive. In other words, a quality growth strategy may well require a conscious effort to proceed as the way opens to raise productivity and not to attempt to catch-up too quickly.

### ***5.3 The marginal effect of investment***

Within the formal sector of an economy, the maintenance of the stock of real assets is generally taken care of by businesses in the normal course of their operations. But decisions to build a new plant, to branch out into a new line of business or to invest in a new type of machine are less commonplace and therefore more likely to be the subject of careful deliberation. They give rise to what Keynes referred to as the marginal efficiency of investment schedule which requires the ranking of projects according to their internal rate of return and hence the identification of a

monotonic decreasing relationship between the rate of return on the marginal project and the volume of investment. *Figure 3* illustrates the construction and also shows, on the same graph, the volume of financing available to fund investment projects in the formal private sector as a function of the rate of interest: as the rate of return on finance increase, so the amount of financing on offer is assumed to increase.

If the rate of return on each potential investment was known with certainty, and if the market for finance was perfect, so that only the most rewarding projects were able to attract finance, then the market could be expected to converge on point C. In practice, this is unlikely for many reasons, the most important of which are that participants in this market have incomplete information and the entrepreneurs who accept the consequent risks require an incentive to do so in the form of a risk premium *i.e.* an expected rate of return in excess of the rate of interest. This risk premium will lower the rate of investment from I to I', say, while the fact that the market is less-than-perfect in identifying the best projects will have the effect of further lowering the rate of investment below I'. It therefore follows that both risk and market imperfections will lower the rate of investment and therefore be prejudicial to growth. Policies that reduce risk are clearly desirable, therefore, as is the development of a well-informed and efficient financial system that can mobilize the savings that are required in order to finance private investment and to discourage any tendencies to credit rationing and crowding-out that might otherwise emerge. Balanced development requires that this market should work well as an important element of an overall concern to make the best use of available resources.

## **6. Politics and the role of government**

### ***6.1 A role for politics***

The discussion in *Section 4* above of the household as consumer and producer can be extended without too much difficulty into a model of the informal sector, while the treatment in *Section 5* of production activity in the formal sector introduces the main features of financial and non-financial corporate activity. It now remains to say something about the role of government and all those other non-government institutions, subsets of which are referred to as 'not-for-profit institutions servicing households' (NPISH) by national income accounts, as 'quasi-non governmental institutions' (QUANGOs) in other contexts, *etc.*

Given the wide-spread perception in the 1980s that the governments of many developing countries were taking on too much and interfering excessively with market forces, there has emerged a general consensus in the development community which favors the encouragement of NGOs and cutting back the size and scope of government so as to be more in keeping with its capacities.

While this trend is to be welcomed in general terms, two qualifications seem to be important. Firstly, while the general perception is that NGOs are benign, reality can be less reassuring and the regulation of both domestic and institutional NGOs is quite rightly a major concern for governments. This is an area that requires much more research and careful advice from multilateral agencies in their efforts to encourage the retrenchment of the public sector.

Secondly, it should be recognized that whatever the international community might think, the role of government *versus* that of alternative institutions is preferably a matter for resolution *via* domestic political processes rather than the conditionality attached to international loans. This is recognized in so far as 'local ownership' of structural adjustment programs is thought to be critical to their success. But such ownership can only be achieved if the public is informed and, preferably, consulted at the formulation stage. To the extent that this is happening in some countries, there is an increasing awareness among women that the males who have previously dominated politics at all levels have not always understood the issues as well as they might.

One consequence of opening-up debate on institutional forms is that greater diversity may be called for. For example, in large countries where local government is unreliable, new institutions may be needed to tap local knowledge and disburse international funds at a micro-level. And, as a second example, new thinking about land reform and the development of small-holder agriculture *via* QUANGOs may well be appropriate in particular instances. There is a wealth of successful experience in various countries to draw on.

Finally, in reflecting on the role of government in relation to other institutional forms it should not be forgotten that the need for change was prompted by the fact that, as of the early 1980s, the 'rules-of-the-game' changed for developing countries with an end to the net-inflow of official development assistance at low or even negative real interest rates. The previous institutional arrangements were designed to encourage and distribute the proceeds of such a flow and,

therefore, to serve the convenience of both bilateral and multilateral donors as well as that of the government. An issue that arises in to-day's new environment is whether the basic distinction in the affairs of many governments between their development and recurrent budgets has now served its purpose.

### **6.2 *The role of government***

Once the role of government is settled relative to other institutions, there are likely to remain three areas in which government must be active:

- (i) in setting basic parameters that have a pervasive effect on economic activity at the international and macro-economic levels;
- (ii) regulating markets and the non-transactional relationships between institutions that arise at the meso level; and
- (iii) in trying to ensure that assets of all types are nurtured on a sustainable basis.

The first two of these three roles cover familiar ground and can be dealt with briefly here. Monetary policy is included under the first heading as a part of government's responsibility for international relations and the flow of funds. Otherwise, some of the most important macro parameters are those effecting risk, notable the responsibility for a just and reliable legal system and freedom of information in the public domain.

Responsibilities under the second heading are similarly well-established in the literature on fiscal policy and public finances. They include the control of monopoly, the supply of public goods and the elimination of discrimination, all of which can be seen as elements of an incentive system that is designed to encourage the efficient use of all available resources. There is nothing in the remodeling of the household sector proposed in *Section 4* that would change the standard arguments in relation to these elements of fiscal responsibility. However, in relation to general taxation there is an important implication. If it is now recognized that the household is both a consumer and a producer, then those things that the household requires in order to produce *i.e.* the basic needs of the household and regrettable necessities, such as travelling to work, should be treated as intermediate consumption, not final. They should therefore be excluded from the definition

of value added (*i.e.* the gross domestic product) and, accordingly, should be exempt from any value added tax.

To some extent, the practice of excluding some basic needs from VAT is followed in all countries which have such a tax and the reformulation of the economics of the household which is outlined in *Section 4* above now gives a *rationale* for this practice.

The corollary of defining the gross domestic product so as to exclude the cost of basic needs has no similar analogue in national practices but, it can be noted, this adjustment could be seen as a shift towards the Marxian concept of surplus. Moreover, since income in excess of basic needs will be close to zero in the subsistence sector, the adjustment suggested would establish a natural origin for the scale on which the (revised) gross domestic product *per capita* is measured.

The importance of the third area of government responsibility emerges from the interpretation of production as a stock-flow relationship, and the emphasis here on cost-benefit analysis.

Both (poor) households and (rich) companies exploit the environment at (almost) every opportunity, creating external costs for others and benefits for themselves. An important role for government is to discourage such abuses where possible. While the *National Conservation Strategies* launched in Rio have generally failed, some governments have had some success in trying to regulate abuse by creating local communities of interest or by insisting that 'the polluter pays' in cases where the polluter can afford it.

The depletion of natural resources is typically easier for a government to control since it is usually subject to the licensing of concessions. However, it is probably only in a minority of cases that the issues raised are addressed in the interest of sustaining living standards in the long-run. A key issue is whether the revenues generated by depletion to-day can be used in ways that confer greater benefits than those that might accrue in future if extraction was deferred. And, from this cost-benefit point of view, there seems to be a *prima facie* case that most governments over-estimate their absorptive capacities and discount the future too heavily.

Next, with regard to infra-structure, there is an important balance to be struck between the need to crowd-in the private investment initiatives of households and companies by building rural roads and an international airport for example, and to avoid crowding-out these same private initiatives by

pre-empting an undue share of the financing available through credit controls, *etc.* as an alternative to credit-rationing *via* interest rates.

This balance is much easier to achieve if domestic savings are buoyant since neither of the alternatives - foreign borrowing and lower rates of investment - provide as attractive an alternative. For the corporate sector, a high savings rate implies that a large share of profits is retained within each business to finance future investment. And, in the household sector, the implications are similar with the added edge that, for the poorest, the accumulation of productive assets and human capital in the sense discussed previously is the *sine quo non* of breaking away from subsistence on a sustainable basis. Private savings are therefore important.

Finally, the husbandry of human capital requires *inter alia* the allocation of funds to the social sectors - health, education, potable water supplies, family planning, *etc.* - and their efficient use. This sets an agenda which cost-benefit analysis can do much to rationalize since it is evident that in many countries the allocation of resources is far from optimal. Urban bias in the provision of education and health benefits is, to some extent, inevitable but the degree of bias is all too often excessive. It is exacerbated by a complementary bias that operates against the basic levels of service provision such as primary education and manifests itself in schools with no teacher, chalk or books, and basic health care centers that lack Band-Aids and aspirin. This same bias typically operates in favor of the tertiary levels - subsidized universities and sophisticated curative treatments in hospital. And, running through all this, there is often a gender bias that mitigates against girls attending school or the special health needs of women. A root-and-branch cost-benefit analysis of all these problems would, most likely result in a major reallocation of resources in favor of the poor. It would also point to the woefully inadequate level of provision that many governments are able to sustain.

However, at the end of the day, perhaps the most serious misallocation of resources is that between capital projects and the financing of recurrent expenditures. It suggests that donors are prepared to finance so-called development projects (*via* tied aid) on a scale that is not locally sustainable. The case for doing so is obviously weak. Indeed, if the provision of basic health and education services is seen as maintenance and investment in the stock of human capital, then the justification for present practices is far from apparent. They have evident advantages. But the two-

tier system they create within government results in major inefficiencies if the main objective is the cost-effective delivery of services to those who need them the most.

**Table 1 : The multiple levels of aggregation at which causation can be identified**

Level of aggregation	Sub-strata / policy areas
International	Trade policy International debt
Macro	Monetary policy Fiscal policy Governance <i>including</i> the respective roles of Government, NGOs and private enterprise
Meso	Socio-economic groups Communities Production sectors Product and factor markets
Micro	Households Individuals

**Table 2: Examples of investment, maintenance and the depletion for each of the main types of assets**

Types of capital investment	alternative activities maintenance	depletion	
physical capital	building a road, factory, etc installing new machinery	keeping assets in running order	scrapping (obsolete) assets
human capital	raising levels of literacy	providing health care	retirement from the workforce
natural resources	exploration activities	protection of fisheries	extraction of minerals

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