

Growth, Employment Creation and Poverty Reduction: An Overview Evidence and Possible Applications to Africa

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I: Introduction

Whilst there has developed, over the last number of years, a fairly rich literature exploring the relationship between economic growth, poverty and inequality, the role and importance of the labour market in these interactions remains under-researched. Despite the existing lacuna, this paper attempts to provide an overview of current and ongoing research which does attempt to understand labour market linkages not only within the economic growth-poverty nexus, but also the centrality of inequality in our broader appreciation of the welfare impacts of economic growth. In doing so, the paper will also attempt a few modest suggestions for new lines of enquiry through the possible tweaking of prevalent methodological techniques, in order to generate a more nuanced analysis of the role of labour markets analysing the linkages between economic growth, poverty and inequality. The paper endeavours to suggest specific African economies where economic growth and welfare outcomes may be intermediated through the labour markets of these respective economies.

Section II of the paper provides a summary of the state of the evidence and the methodological tools in use when exploring these linkages between economic growth, poverty and inequality. With this framework in hand, Section III discusses and provides some tentative evidence on economic growth and labour market outcomes, focusing on the output-employment relationship and cross-country approaches to understanding the labour intensity of growth. Section IV proposes possible extensions to existing growth-poverty-inequality tools which could add value to our appreciation of the role of the labour market in country-specific empirical applications. Section V then deals with a set of discrete labour market issues that are central to the growth-poverty-inequality nexus, including the role of the informal sector and human capital, with a specific focus on Africa. Section VI concludes.

II: Economic Growth, Poverty and Inequality: A Summary

There is very little debate, if any, amongst economists around the notion that a high level of economic growth is essential for poverty reduction. Indeed, increased growth rates, effectively measured by rising *per capita* mean incomes, would appear to make this link clear and simple: Rising growth rates, will yield lower poverty levels in the society. Cross-country results indicate that the absolute value of the elasticity of poverty with respect to economic growth (as measured by the survey mean income or consumption) ranges from 1 to 5, with an average of 3 (Ravallion & Chen, 1997). Hence, there is strong evidence that economic growth is a necessary condition for poverty reduction. The range of values however suggests that some economies are more able to achieve pro-poor growth than others, indicating of course that economic growth is a necessary but not sufficient condition for poverty reduction. This paper will attempt to examine these ‘sufficient conditions’ within the context of the labour market.

One over-riding factor in understanding the growth-poverty linkage is of course how it is intermediated through distribution of income. Once inequality is allowed to change in our modelling of the welfare consequences of economic growth, the impact on poverty is unclear (Kanbur, 2004; Kanbur & Squire, 1999). Indeed, arguably the most important welfare consequence from growth, in terms of its impact on poverty, is how this growth process impacts on the distribution of income. The consequent literature, driven by the work for example of Kakwani (1993); Datt & Ravallion (1992); Ravallion (2001, 1997); Ravallion & Datt (2002); Bourguignon (???) and Kanbur (2005) have attempted, in different ways, to provide a more accurate and careful representation of the interaction between economic growth, poverty and inequality. The evidence thus far, whilst far from establishing a consensus view therefore suggests the following key deductions on the basis of empirical,

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largely cross-country based, evidence. Firstly that growth which is accompanied by a rise in income inequality will dissipate the impact of the former on poverty reduction. Indeed, this is more easily shown through simple theoretical cases but it is true that the impact of economic growth on poverty depends on the extent to which inequality has increased. As Ravallion (2001) has indicated, spells of growth during the 1980s in a sample of economies including Bangladesh, China, Colombia, India, Philippines and Vietnam, witnessed the dilution of the impact on household poverty through rising income inequality. The often apparently minor changes in the relevant inequality measure – usually the Gini coefficient – belie the dramatic impact these shifts can have on poverty reduction outcomes from growth.

Secondly evidence seems to suggest that the initial level of income inequality within an economy is important in predicting the magnitude of the impact of growth on poverty (Ravallion, 1997; Clarke, 1999; Ravallion, 2001). Specifically, higher levels of initial income inequality are likely to be associated with a lower impact on poverty from growth, *ceteris paribus*. This is to be expected, given that an initial mal-distribution of physical, human and financial resources should make it much harder for the poor to participate in, and therefore gain from, the process of economic growth. Ravallion (2004) for example illustrates through cross-country evidence how, at very high levels of initial income inequality within his sample, growth-poverty elasticities are not significantly different from zero. Indeed, this relationship is particularly important in our context here, given the high Gini coefficients observed for Sub-Saharan Africa (SSA) relative to many other regions of the world.

A final thread of the evidence linking poverty, economic growth and inequality revolves around the sensitivity of measures of income inequality to changes in economic growth. Hence, much of the international evidence here suggests that measures of income inequality do not alter significantly with economic growth (Li, Squire & Zou, 1998). The growth-inequality relationship therefore tends to be relatively inelastic, as large changes in growth rates are required for significant distributional shifts in a society (Kanbur & Squire, 1999; Kakwani, 1993). Notably, there is little if any, consistent evidence of large and significant declines in inequality accompanying episodes of economic growth. In many cases then, societies on a path of successive years of growth should expect more inelastic growth inequality outcomes than possibly that of growth and poverty.

The importance of noting these empirical linkages here, though yielding little in terms of a specific focus on Africa, is that they remain critical to any discussion around how the poverty-growth-inequality nexus is intermediated through, and in turn also impacted on, by the labour market. The nature and response of the labour market in the above interactions is important. Two random examples on where the labour market is important in this arena may make our point more powerfully: Firstly, in the context of examining the inequality-growth relationship, labour demand responses during growth episode of an economy will often shape and influence the private distributional consequences from growth. A typical example of this response on the basis of cross-country evidence has been the advent of skills-biased labour demand shifts, where domestic economies have witnessed a disproportionate increase in the demand for skilled, relative to unskilled workers during the periods of economic growth. The non-neutrality of response in the occupational labour demand function to economic growth must lie is critical to understanding how economic growth can and does have distributional and poverty consequences. A second example of the relevance of the labour market to these broader debates is within the arena of initial income inequality. It is entirely possible that high levels of initial income inequality are in large part located within the labour market. Put differently, high levels of initial wage inequality in a society, may be precisely the labour market expression of how initial income inequality impacts on growth-poverty elasticities. Labour market driven wage and income from the formal as opposed to the informal economy, for example, may be the key determinant of initial income inequality in a society². The

² It is of course through standard income source decompositions of the Gini Coefficient for example (See Lerman & Yitzhaki, 1985), that one can empirically establish the contribution of regular wage or self-employed income to overall inequality – relative to say state transfers of interest income.

reason in turn, why Gini coefficients are so inelastic to economic growth may in part lie with the difficulty in, and long-run returns to, altering an unequal and poor quality schooling system within an economy. Human capital formation must therefore feature as one of the key issues identifying both the cause and solution for the overcoming the low growth-poverty elasticities yielded through high inequality levels.

Within the above context therefore it should be clear that we view the labour market as central to many of the relationships observed in the growth-poverty-inequality triangle. We turn therefore, in what follows below, to attempt to provide a more detailed and hopeful useful framework for understanding how this factor market can be analysed within these broader concerns around the welfare consequences of economic growth.

III: Employment Creation and Economic Growth

The notion that the impact of economic growth on poverty is intermediated through the distribution of income is a key entry point for the role that the labour market potentially plays in these inter-relationships. Indeed, at one level, the determinants of economic growth and those factors which shape its trajectory and nature must at some point consider the various elements of the labour market in this nexus. Whilst not by any means exhaustive, we believe that there are at least four possible entry points for the discussion of how the role of labour markets may be further expanded on and explored in their impact on both economic growth and welfare enhancement. Firstly, we examine whether the output-employment elasticity is a useful lens through which to analyse growth-poverty-inequality linkages. Secondly, we provide an overview of the literature that currently exists on trying to find some analytical traction, through cross-country work on how sectoral patterns of growth and employment creation, and within that the labour intensity of this growth, impact on poverty reduction. Thirdly, we explore how the current tools of pro-poor growth analysis, may be used to shed some light on the role of labour markets in understanding the welfare outcomes from growth.

IIIa: The Output Employment Relationship

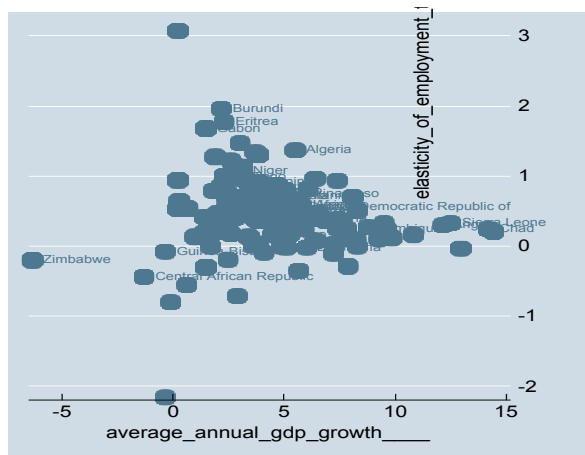
The starting point for understanding the link between economic growth and the labour market, is often through the labour demand function, where standard techniques allow for cross-country and within-country estimates of labour demand functions³. It is not unusual therefore for the following equation to be estimated:

$$\ln L_t = \beta + \beta_1 \ln w_t + \beta_2 \ln r_t + \beta_3 \ln Q_t + \varepsilon_t$$

where L is employment, w the wage rate, r the user cost of capital and Q output – all represented at time t . The output-employment elasticity is represented by the value of the coefficient β_3 . The coefficient β_3 in terms of the analysis here therefore would represent the entry point for understanding empirically how growth in output translates into employment creation, and how this in turn will result in household poverty outcomes. As indicative of the type of estimates which are often derived we provide in Figure XXX below, results from an ILO econometric model of individual country output-employment elasticities. The data covers the period 2001-2005, and is represented as a simple mean. Estimates are in turn presented against the average annual GDP growth of the specific economy. Given that the data are derived from the ILO's internal econometric model, a standardization of estimates is ensured. The data provided here only examines African countries, for which data was available.

Figure XXX: Output-Employment Elasticity Measures: Estimates for Africa, 2001-2005

³ See Hammermesh (1993) for a more detailed theoretical background to the theory of labour demand and an overview of international estimates of these elasticities.



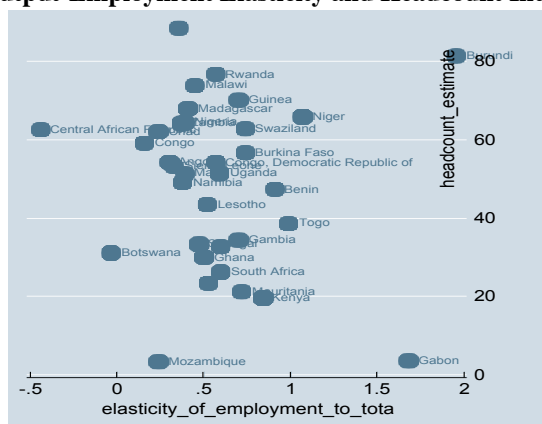
Source: ILO (2008)

Notes:

1. The underlying source for the estimates is country-level employment data, located within the ILO's Global Employment Trends, Model 1 (ILO,2008)
2. Comparability of estimates are affected by different cross-country definitions used for employment figures, in particular the age range utilized. It is not expected however that this variance will significantly alter the results.
3. Only data from labour force surveys or population censuses are used, thus further limiting variance in results.

Visually, it is evident that there is heavy clustering around employment elasticities between 0 and 1. The data indicate that the mean for this sample of 44 countries in Africa stands at 0.580, with a median of 0.525. This is not unusual globally, as the mean for a sample of 160 countries, from the same data set was 0.460 with a median of 0.45. Ostensibly then, for the average African economy, the data suggests that a 10% increase in economic growth, is associated with an employment expansion of close to 6%. However, a more responsive labour market, in terms of employment creation, to growth may not necessarily translate into a strong reduction in poverty levels. Whilst, abstracting for now from inequality, the figure below does provide provisional, albeit very simplistic evidence, that the relationship between the employment elasticity and the incidence of poverty is not very strong. The data uses the 2001-2005 employment elasticity estimates of the ILO, as with the above figure, and correlates this with the most recent Headcount Index measures based on official survey data, for a sample of 34 African economies. The data, in the first instance, do suggest that poverty levels in the society should not be related solely to the ability of an economy to convert output expansion into jobs.

Figure XXX: Output-Employment Elasticity and Headcount Index: Estimates for Sub-



Saharan Africa

Source: ILO (2008); World Bank (Pov.CalNet) & author's own calculations

Notes:

1. The underlying source for the estimates is country-level employment data, located within the ILO's Global Employment Trends, Model 1 (ILO,2008)

2. Comparability of estimates are affected by different cross-country definitions used for employment figures, in particular the age range utilized. It is not expected however that this variance will significantly alter the results.
3. Only data from labour force surveys or population censuses are used, thus further limiting variance in results.

Poverty levels, in this sample would therefore seem to be a function of a range of additional variables, not captured sufficiently through point estimates of the output-employment elasticity. Evidence from an ILO study (Islam, 2004), based on a sample of 23 countries however suggests a more considered view on the role of output-employment elasticities in explaining the incidence of poverty. Islam (2004) runs a standard OLS cross-country regression of the change in the incidence of poverty (P_0) on the growth on GDP growth and the employment elasticity with respect to output for a sample of 23 economies (of which 9 were African). The results yield a significant coefficient on both independent variables, with the employment elasticity coefficient significant at the 95% level. One crucial caveat remains however: given data constraints, the elasticities are for the manufacturing industry, thus restricting the interpretative value of this result. As Islam (2004) himself notes, that, based on the diagnostic tests and the limitations of the data and choice of countries, the explanatory power of the output-employment elasticity in understanding the growth-poverty linkage, while relevant – remains relatively weak.

Another key limitation of the employment elasticity as an entry point into understanding how the labour market and employment creation may translate into poverty reduction, is that it measures only the absolute number of employed within an economy, but cannot capture adequately employment growth relative to the growth in the labour force (Guitierrez *et al*, 2007). This is a key point: In many developing countries, a rapidly growing labour force participation rate, means that employment creation can occur simultaneously with rising unemployment levels and rates. Africa's high LFP growth rates would suggest that anchoring an understanding of poverty reduction efforts purely around high output-employment elasticity figures could be potentially misleading. Indeed, whilst LFPR and unemployment data is limited for many African economies, evidence from many other developing economies does suggest that high and rising unemployment rates can and often does co-exist within economies which do return relatively high output-employment elasticities.

Despite the above caveats however, utilising the estimates of the employment elasticity from a standard labour demand function, must serve as a starting point for understanding the labour market determinants of the growth-poverty-inequality nexus. In the African context for example, it is crucial that these elasticities are estimated (and where they do exist already assessed) and then used as part of an entry point to understanding the role of the labour market in explaining or intermediating in the poverty-growth relationship. The significant coefficient obtained by Islam (2004) therefore is both a reminder that the labour market does matter for poverty reduction, but perhaps more importantly for our purposes here, suggests that further detailed and more robust analysis is required for Africa of the sensitivity of aggregate employment shifts to changes in output. This is arguably a starting point for understanding the linkages between economic growth, poverty, inequality and the role of the labour market in this interaction.

One of the drawbacks of the employment elasticity is often that it cannot account for the sectoral nature of a growth-employment pattern in an economy. Within this issues relating to the labour intensity of the growth trajectory and the consequent impact this may have on productivity of workers and the productive capacity of a sector or economy – are not easily incorporated in the above. It is to these set of issues that we now turn.

IIIb: The Labour Intensity of Growth: A Sectoral Approach

It is logical to expect that in sectors where the unskilled and the poor are dominant employees, output growth in these sectors should, *ceteris parabus*, result in a decline – through rising incomes of these employees – in poverty levels. Whilst scant the evidence in

this arena does begin to affirm this view. What we attempt below therefore is a brief analytical overview of some of the key results from cross-country work on how specific sectoral growth patterns, together with productivity effects, may or may not impact on household poverty levels within economies.

The generic approach in much of this fairly truncated literature, revolves around attempting to model the impact of a variety of different measures of sector-labour market activity (with the requisite controls) on the incidence of poverty. Almost all, barring a few exceptions, are multi-country studies, invariant to regional specificity (Loayza & Raddatz, 2006; Islam, 2004; Guitierrez *et al*, 2007; Satchi & Temple, 2006). Herein then lies an early opportunity for a research agenda for Africa: namely the possibility of undertaking detailed country studies examining this nexus between sectoral growth, labour markets, productivity and poverty reduction. Indeed, the work of Ravallion & Datt (2002) in examining how the inter-state differences in agricultural versus non-agricultural output account for the difference in poverty estimates across India's states could be usefully applied to the African Context. Whilst the study finds in part, for example, that non-farm output has not been pro-poor relative to farm-based output, it is evident that this line of enquiry, which we turn to in greater detail below, may be an ideal approach to utilise and apply data permitting to a sample of African economies.

The cross-country evidence however, is particularly interesting and indeed a powerful manner in which to understand the role of the labour market in poverty reduction in greater detail. Loayza & Raddatz (2006) is key contributor to this literature in that the authors through their theoretical model, estimate two regression specifications, which go to the heart of our concerns around the role of the labour market in growth and poverty reduction. In anchoring the importance of the labour market and employment creation to poverty reduction on the level and nature of growth at the sectoral level, the authors firstly estimate a regression equation broadly similar to the following:

$$\Delta P_{jt} = \alpha + \beta_1 \Delta y_{jt} + \beta_2 \Delta s_{ij} + \beta_3 \Delta l_{ij} + \epsilon_{jt} \quad (1)$$

Where P refers to the FGT class of poverty measures (Foster, Greer, Thorbecke, 1984) and s_{ij} is the share of each sector i 's value-added in country j 's GDP, thus serving as a weight on the growth of each sector's output, measured by y_{ij} . In essence though, this approach involves estimating the impact of a weighted output growth in specific sectors on poverty reduction across countries. In trying to therefore locate the potential role of the labour market in the growth-poverty relationship, this specification needs to be extended, and the authors duly estimate an equation which attempts to identify and characterise sectors according to whether they are labour-intensive or not. The nature of production methods within the sector therefore, are viewed as the portal linking the labour markets, growth and poverty reduction. Hence, more labour intensive sectors, through greater employment creation levels should result in more significant reductions in household poverty across countries. The second estimated equation by Loayza & Raddatz (2006) takes the form:

$$\Delta P_{jt} = \alpha + \beta_1 \Delta y_{jt} + \beta_2 \Delta s_{ij} + \beta_3 \Delta l_{ij} + \epsilon_{jt} \quad (2)$$

Where the change in poverty is now viewed to be a function of both the growth in the sector's output and the composition of this growth, measured by the labour intensity of each sector, given by the term l_{ij} . The numerator in this term, l_{ij} , notably only measures unskilled employment. It is expected therefore that the coefficient on this term should be negative as

higher levels of labour intensity (and indeed higher growth in any given sector) should be associated with reduced poverty levels, through increased wage income accruing to the poor.

The results from the Loayza & Raddatz (2006) sample of 55 countries, suggest firstly that those sectors whose growth in output is most responsive to poverty reduction (as measured by absolute or relative poverty indicators), at the 3-digit SIC level was in descending order, Agriculture, Construction and Manufacturing. Notably poverty levels appear to be invariant to output growth in Mining, Utilities and Services in the sample. In estimating equation (2) above, the authors find a significant and negative coefficient on β_2 , suggesting that higher levels of labour-intensive growth across all sectors within an economy, will significantly reduce absolute and relative poverty levels. Put differently, if output growth in an economy is marked by a disproportionate absorption of unskilled workers into employment, this will significantly reduce poverty levels in a society. The study is also important in that distributional consequences of growth are concerned, and hence inequality levels are included as controls. The diluting the impact of inequality on growth and poverty, is captured in one of the specifications here and indeed the evidence does indicate that the GDP growth-poverty elasticity returns an insignificant coefficient when interactions with income inequality are accounted for. The labour intensity of sectoral growth however, remains significant and negative. This result however, does suggest, as we elucidate on below, that closer attention needs to be paid to how the nature of labour market responses to output growth are intermediated through impacts on the distribution of income.

As part of this relatively new line of enquiry, a recent study by Guitierrez *et al* (2007) attempts to supplement the analysis of labour intensity and sectoral growth patterns with a more nuanced assessment of how demographic shifts in general and labour supply and labour mobility in particular, may be important in understanding household poverty changes in a society. The authors therefore, in addition to estimating how sectoral productivity and employment growth may impact on poverty shifts across countries, also include two additional labour supply variables: the share of population of working age who report being employed (e) and the ratio of the working age population to the total population (a), which the authors see as a proxy for the dependency ratio (Guitierrez *et al*, 2007). Hence, their modelling strategy revolves around the following conception, linking labour market activity to welfare outcomes:

$$\Delta P_i = \beta_0 + \beta_1 \Delta W_i + \beta_2 \Delta E_i + \beta_3 \Delta A_i + \beta_4 \Delta G_i + \beta_5 \Delta I_i \quad (3)$$

Where ΔP_i refers to the shift in the incidence of poverty (or any other appropriate measure)

as a function of both the output per worker (w) in sector i of country j ; and the two labour supply variables noted above. The output per worker growth rate and the 'employment rate' by sector, reflect the elasticity of poverty reduction with respect to productivity- and labour-intensive sectoral growth respectively. The authors are also strongly cognisant of the role of distribution within the growth process, and hence all specifications noted, include measures of the change in the Gini coefficient. It is instructive to note that the Gini coefficient was significant in almost all equations estimated.

Broadly, the results from a sample of 39 developing economies and 106 growth spells suggests firstly that while employment-intensive sectoral growth is significant in reducing poverty, productivity growth within sectors is also a key determinant of poverty reduction. Interestingly however, the authors find that it is the secondary sector which is key to poverty reduction, relative to agriculture. Whilst this may be a function of their sample, the notion that the poor migrate to urban areas in search of jobs – in classic Harris-Todaro style – so kick-starting a process of gradual industrialisation and rising mean wages appears to find support in the evidence here.

Ultimately though, the above provides some insight into current thinking and analysis examining how through understanding sectoral growth patterns, the role of the labour market may be appreciated and understood. There are at least a number of possible extensions to the above modelling of the role of the labour market which we believe may be possible. In addition, some of these may indeed be applicable for a more detailed analysis of how sectoral growth episodes translate into poverty reduction.

It is also possible when for example, thinking of an appropriate research agenda for African economies, to conceive of a number of elaborations to the above modelling approaches. Firstly, it is critical that the notion of initial income inequalities (as noted at the outset) are taken into consideration. The idea that an initial unequal distribution of income and endowments will modulate both the level and nature of sectoral employment creation and therefore economic growth, is important to build into our estimations. For example, it may be the case that the pattern of agricultural growth and employment creation whilst labour-intensive in nature, does not necessarily lead to significant reductions in poverty given an initial unequal distribution of land ownership. Another possibility is that highly unequal human capital endowments could set an upper limit on the ability of output growth at the sectoral level, despite productivity growth, to convert employment creation into poverty reduction. Hence, unequal human capital levels within the workforce may implicitly narrow both the patterns of output expansion at a sectoral level and the ability of this expansion to realise significant poverty gains. In a sense, this is an attempt at finding a sectoral and labour market lens to the observation of Ravallion (2004) that higher levels of initial inequality, are correlated with very low growth-poverty elasticities within a country. One can therefore translate this metric of initial inequity into a range of sub-indices that would include the coefficient of variation in years of schooling; the proportion of arable land in small-scale agriculture and so on. Finally, for African economies where income inequality levels are above global averages, the extent to which the labour market expressions of these initial inequities affect employment creation and ultimately poverty reduction is crucial to include in an proposed research programme.

In terms though of attempting to model the different and alternative labour market portals through which the growth-poverty nexus is intermediated it is clear that a number of labour market factors can and should be included in the modelling procedure. We would argue therefore that labour market variables which are important in providing an improved understanding of growth-poverty linkages include household-level human capital endowments; rural-urban migration; the nature of labour demand needs of firms and the size of the informal sector within an economy. The inclusion of these variables would make the above cross-country specifications more robust, and of course within the context of examining African economies, also more relevant in the growth-employment creation-poverty nexus. For example, it is relevant that economies which have lower levels of average years of schooling within a household may be less likely to convert output expansion (via employment creation) into significant reductions in poverty. In addition, if one accounts for the skills mix of each sector within an economy, this may provide an understanding of the limits of sectoral output growth levels to optimal employment expansion. Simply put, a growth path characterised by high skills intensity across all sectors, should yield *ceteris paribus*, a lower impact on household poverty levels over time. Large formal sector firms (often, but not exclusively, multinationals) astride swathes of self-employed individuals or employees of the self-employed – predominate the labour markets of many developing (and certainly African) economies. The ability of the informal sector to absorb large numbers of the workforce – and in particular new entrants – into sustainable employment is key to understanding how employment creation can have poverty reduction impacts in Africa and elsewhere. Hence, our modelling and research strategy, must include and take appropriate account of the self-employed and their employees. The extent to which a thriving informal sector, with few barriers to entry and growth and close linkages to the formal sector, translates into employment creation and poverty reduction over time requires further detailed investigation. None of the existing literature provides an exhaustive overview of the manner in which informal sector output and employment growth, relative to formal firms, results in

higher growth-poverty elasticities. This would seem to be key avenue of research and interrogation for a sample of African economies, where such data is available.

A final element of any analysis attempting to understand the determinants of poverty reduction, using sectoral output and employment indicators, is the role played by the state. In many developing countries the state may of course attempt to alleviate some of the deleterious consequences of growth to the poor, through different forms of social transfers and other pro-poor oriented expenditure. In some country-specific cases then, rising GDP may be also be linked to increased pro-poor expenditure as a consequence of the increased revenue base. For example, Ferreira *et al* (2007) find a significant association between expenditure on social security and poverty reduction for Brazil over a 20-year period. Hence, in trying to more robustly model the determinants of poverty reduction across countries, the direct GDP-poverty elasticity does require the inclusion of the role of state expenditure in this equation. An extension to this, within our context here would be two-fold: Firstly, it may be useful to assess in countries where such data is available, whether active labour programme expenditure by the state is also correlated with poverty reduction in an economy. Secondly, the public sector is a key node for employment creation of varying degrees of productivity. The extent to which public sector employment, particularly in low income economies, is an indirect (and possibly inefficient) poverty reduction strategy would be useful to estimate in the African context.

Whilst the above has attempted to provide a brief overview and some possible extensions on the little work which exists in this arena of sectoral growth patterns, employment creation and poverty reduction – it is evident that further research is required for African economies alone. Indeed, where data exists, particularly fruitful analyses can be undertaken at the country-level alone. Country-based analysis examining the sectoral and labour market determinants of poverty reduction, such as that for India by Ravallion & Datt (2002), may provide an ideal point of departure for a number of African countries with high-quality household and labour force survey data.

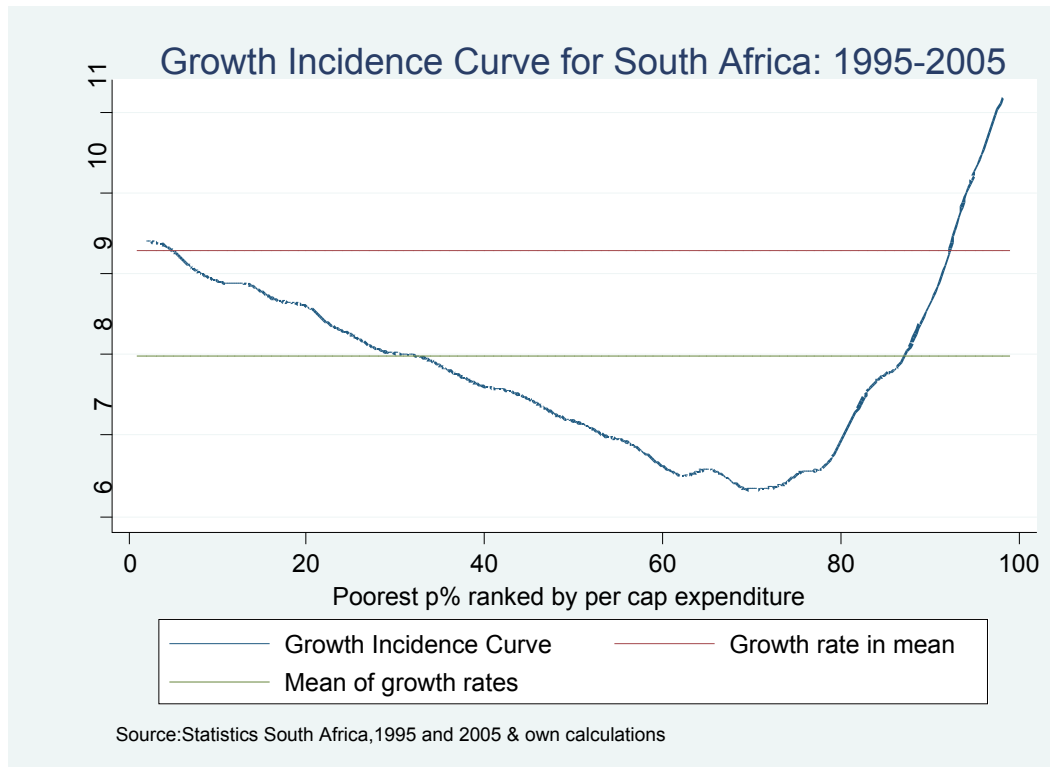
IV: Pro-Poor Growth and Labour Market Income

The stable diet of pro-poor growth analysis has come to include the use of growth incidence curves (GICs). Methodologically, we draw on the work of Ravallion (2004) and Ravallion and Chen (2003), who developed these concepts. The GIC is anchored theoretically around the Watts index and is effectively a distribution-sensitive measure of income growth over time. Essentially the GIC approach allows us to determine whether growth in expenditure in a country over a specified period has been pro-poor in nature or not. The GIC plots the growth in expenditure across each centile of the distribution. Pro-poor growth may be defined in two broad ways, one definition being stronger than the other in terms of attaining pro-poor growth: Growth may be considered pro-poor in an absolute sense if the change in income levels of the poor (as defined by a chosen poverty line) over a given time period is larger than zero, i.e. the income levels of the poor have increased in absolute terms. Graphically, this definition is represented by a growth incidence curve that is located above zero along the entire distribution. Alternatively, growth may be considered pro-poor in a relative sense if the change in the income levels of the poor is larger than the change in the income levels of the non-poor. In most cases however, GICs have been utilised to examine how household income or expenditure has changed over the distribution and over time for specific countries. In doing so, we of course derive estimates of whether a country's growth path has been pro-poor in nature or not. To date however, the methodology has not been applied to labour market categories, as a representation effectively of whether the growth path of a country – effectively in terms of the nature of employment creation – has resulted in pro-poor growth outcomes or not.

As our point of departure we provide a standard GIC in the figure below – for South Africa. Hence, we provide the growth in per capita expenditure across the percentiles of the distribution for South Africa, over the 1995-2005 period (Bhorat & van der Westhuisen, 2008). It is clear from the GIC that growth in per capita expenditure was pro-poor in the absolute sense, with all the individuals across the distribution experiencing

positive growth between 1995 and 2005. While individuals at the very bottom of the distribution clearly benefited more from the increased growth in expenditure than individuals up to the 70th percentile, this growth has not been pro-poor in a relative sense. Relative pro-poor growth was not evident, given that from around the 70th percentile, expenditure begins to increase steadily again, with individuals in the top ten percent of the distribution enjoying the highest average annual growth rates of all. It is important to note that, at the bottom of the distribution, only the poorest 30 percent of individuals experienced average annual increases in expenditure above the mean of the percentile growth rates. Individuals between the 60th and 70th percentiles experienced the lowest growth rates at around 6 percent.

Figure 3: Growth Incidence Curve for South Africa, 1995-2005



Source: Statistics South Africa (1995 & 2005), own calculations

- Notes:
1. Frequency weights are assumed with the population in 1995 weighted according to the 1996 Census and the population in 2005 weighted according to the 2001 Census
 2. Figures are annualised growth rates

This result means that economic growth, as measured by per capita expenditure in the first decade of democracy in the South African economy, was pro-poor in absolute terms. The average annual growth in mean per capita expenditure was just above nine percent over the period, while the mean of the growth rates at each percentile was eight percent over the period. However, closer examination of the data reveals that the rise in expenditure of those at the bottom-end of the distribution was in large part, a function of increased well-targeted social security expenditure by the state⁴. In terms of our focus here, the labour market or more accurately, employment creation ostensibly had very little to do with the evident pro-poor growth experienced by individuals and households at the bottom-end of the income distribution in South Africa. The above fairly standard GIC approach is therefore an incomplete approach to understanding the role of labour market factors in pro-poor growth in

⁴ Data indicates that the share of government transfers grew from 2.5% of GDP in 1996/97 to just over 3% in 2005/06. Social grant expenditure increased from R20 553 million in 2001/02 to R51 927 million in 2005/06, representing a 26.1 per cent growth in social assistance expenditure by the state. The total number of grant beneficiaries increased from approximately 3 million grant beneficiaries in 1997 to 9.4 million grant beneficiaries in 2005 - an average annual growth rate of 15.3%.

an economy. What this estimation above yields as pro-poor growth, may in fact say very little about how the labour market, through job creation, has in fact contributed to pro-poor growth and hence aggregate poverty reduction in the society.

However, it is entirely possible to utilise the architecture of the GIC curve approach to glean a more accurate representation of how the labour market, through employment creation, may (or may not) have generated pro-poor growth within an economy. If one thus utilises the functional form of the GIC curve, which is represented as (Ravallion,2004):

$$g_p = \frac{y_p}{y} \quad (4)$$

Where the growth rate g of each percentile p in the distribution is traced out across the variable under consideration, y . It is very easy to see then from the above, how distinct and relevant labour market categories can be supplanted onto the GIC approach. In effect then, we would treat the distribution y as being represented by our labour market category of interest. In so doing, we are immediately able to interrogate and understand the role of the labour market, and labour market returns in particular, in the growth process. The extent to which wage income as opposed to total household expenditure, was able to rise across all percentiles, or indeed, increase at a faster rate for those at the bottom of the distribution (who may be unskilled or in informal employment) – would be just one example of a vital labour market lens to understanding pro-poor growth and poverty reduction in an economy.

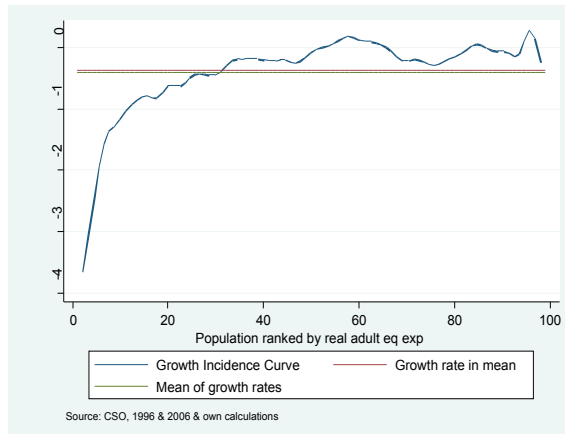
Based on the above, it is possible to conceive of representing GICs and their reflection of pro-poor growth estimates using labour market variables such as wage income, informal sector income, or wages of the self-employed. In the African context, where classic wage labour is fairly non-representative, one may want to examine rural small-scale agricultural income as opposed to urban self-employed income. More broadly, and to some extent a corollary of the cross-country regressions above, GICs by the main sectors within an economy would also be very useful. In so doing, this analysis would provide an understanding of whether, through say employment creation within a sector, whether the relevant sector has also provided returns which have resulted in benefits to the unskilled and hence contributed to poverty reduction⁵. To some extent then, the GIC methodology needs to be complemented by the employment consequences of growth, derived through the approaches noted above.

We provide then, one example of how the specific application of this GIC approach using labour market categories, may yield interesting information on the role and importance of the labour market in affecting poverty levels in a society. We present below data for Zambia for the period 1996-2006 utilising the country's official household survey data (drawn from Zambia's Central Statistical Office) for the two years. We present the growth in real adult equivalent expenditure of the population, for the period 1996 to 2006. Importantly, however, the data estimates GICs for two distinct categories: small-scale rural households and non-agricultural households.

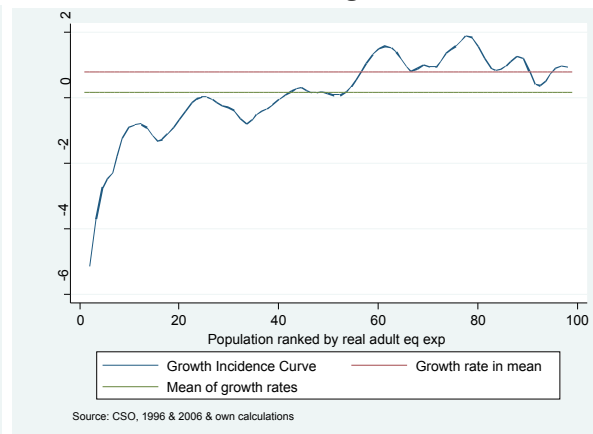
The data are a representation of the returns the growth process in Zambia over the decade has realised to small scale rural farmers as opposed to those households and individuals in rural areas, but not involved in agriculture. To some extent the latter is a proxy for non-agricultural informal sector activity within rural areas.

⁵ To some extent this approach would be an extension of the work in Huppi & Ravallion (1991) who examined poverty shifts in Indonesia by the sector and occupation of the household head.

Figures 4 & 5: Growth Incidence Curves for Zambia, 1996-2006
Rural Small Scale



Rural Non-Agriculture



Whilst further interrogation of the data within the context of Zambia’s economic growth episodes is clearly required, the data does suggest that we are provided with a window into how the labour market may (or may not) be contributing to pro-poor growth in a society. Closer inspection of this data for example, indicates that households or individuals in either rural self-employment (represented by rural non-agriculture here) or rural small-scale agriculture did not experience vastly different returns from economic growth. Mean annualised growth rates for these two income-earning activities stood at -0.37% for small-scale farmers and 0.81% for those in rural non-agriculture activities. In one sense then, one could argue that informal sector opportunities within rural areas in Zambia, have not been effective in reducing poverty levels. Put more generically, this segment of the labour market has consistently been unable to create income-earning opportunities in Zambia, resulting therefore in both a lack of pro-poor growth and an inability to reduce poverty levels for this component of the labour market.

One can however, think of extending this analytical rubric in order to gauge how different sectors within Zambia (or even provinces dominated by particular forms of economic activity) have fared in terms of pro-poor growth. In so doing, we are beginning to utilise the GIC methodology in order to better understand this linkages between employment creation, poverty reduction and economic growth within a society.

It is also possible to utilise the methodology to estimate the relative contribution of the labour market and labour market income in particular to engendering pro-poor growth in a society. One can think therefore of the following formulation:

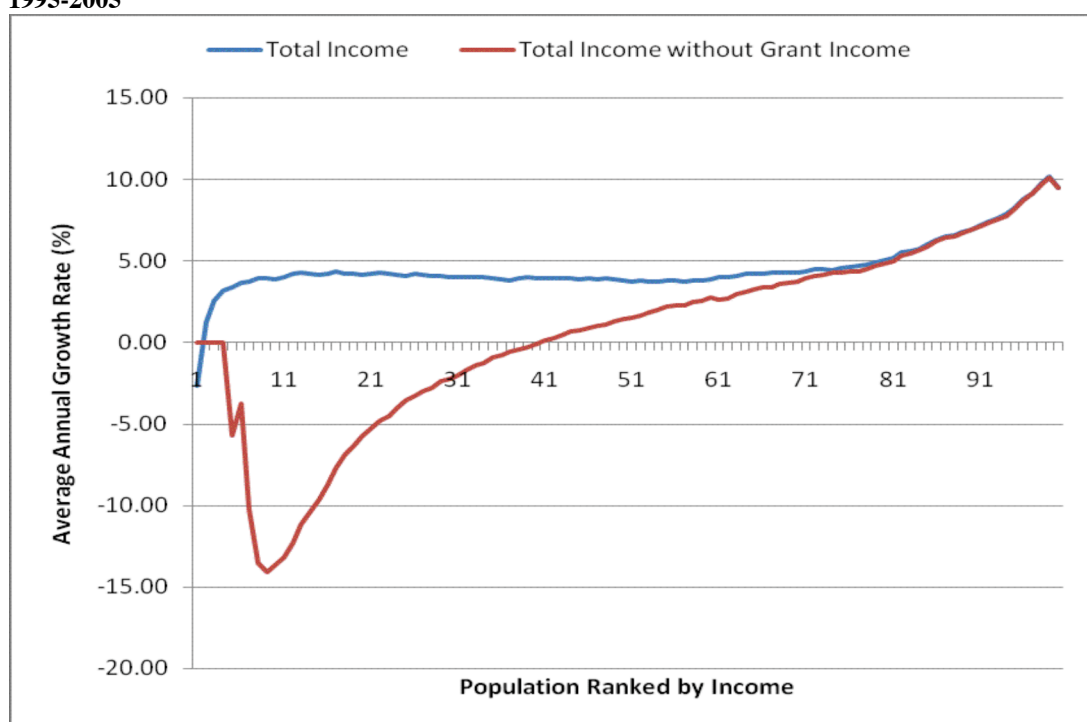
$$\frac{y^T(p^T) - y^L(p^L)}{y^T(p^T)} \tag{5}$$

Where $y^T(p^T)$ and $y^L(p^L)$ refer to those distributions over time t of total expenditure or income within a household, and total labour market income within a household for any given category i of household demographic (province; location; gender of household head and so on). We are representing therefore in the equation above, the difference in the GICs for these two categories for any given household demographic. The difference between the two GICs would indirectly represent the role of the labour market in ensuring pro-poor economic growth in the society. Put differently, the smaller the gap in pro-poor growth rates within a particular demographic, the more important has the role of the labour market been in driving pro-poor growth over time t for that household demographic. A specific example may suffice here: If total household income within urban areas minus that of labour market income in urban areas, was smaller than the same estimates for rural areas across the percentiles of the distribution, it would be evident that urban labour markets have been more effective in ensuring pro-poor growth than rural labour markets. In economies where there are large

social transfers from the state, comparing total household income relative to regular labour market income (or indeed state transfer income) would provide for an assessment of the ability of labour markets to deliver both employment creation and pro-poor growth.

We provide below, albeit in an indirect manner, an example of how this approach could be applied – again utilising South African data. We use here the same data noted in Figure 3, namely the Income and Expenditure Surveys (IESs) for 1995 and 2005. The key difference here, is that we calculate the percentile growth rates for total income both with grant as a source of income and total income excluding grant income as a source of income between 1995 and 2005. We compare the two GICs, one which includes grant income as a source of income while the other excludes grant income as a source of income. In relation to equation (5) above, this represents $g^T(p^T)$ and $g^L(p^L)$, where instead of the latter representing labour income, it is all household income excluding grant income and hence a fairly close approximation to regular wage income.

Figure 6: Growth Incidence Curve Total per capita Income excluding Grants South Africa, 1995-2005



This evidence for South Africa when examining the GIC curve with grant income excluded from total income, in comparison to the GIC of total per capita income for South Africa – is alarming. When grant income is excluded from total income, the average annual growth rate for those individuals between the 5th and the 20th percentiles becomes negative. Indeed, the average annual growth rate for per capita income excluding grant income is negative for all individuals between the bottom 5th and the 40th percentile. In the context of our discussion here, this result is suggestive of a labour market which is not ensuring that those individuals at the bottom-end of the distribution are engaging in productive income-earning activities in such a manner that pro-poor growth is possible.

Further evidence from this data shows that the mean non-grant income growth rate is significantly less than the mean growth rate when grant income is included, and it is only individuals from the 50th percentile who experienced average annual growth rates greater than the mean growth rate. The mean growth rate is 1.7 % when grant income is excluded compared with the mean growth rate of 4.8% with the inclusion of grants. Additionally, as it is visually clear, when regular non-grant income only is examined (dominated in South Africa by wage income) - growth in South Africa is not pro-poor even in the absolute sense.

Simply put, the evidence here suggests that returns to labour market activity has not been able to ensure that output growth in the economy delivered significant reductions in poverty through income gains. Instead, South Africa’s growth-poverty reduction elasticity has been raised through increased social transfer expenditure by the national government.

The above also suggests then, as an extension to equation (5) above, and perhaps a more intuitively appealing manner in which to assess the role and impact of the labour market, on the nature of economic growth in an economy. The simple calculation which presents itself on the basis of the above is:

$$\Delta T = \sum_{p=1}^100 (Y^T_p - Y^G_p) \quad (6)$$

Where the change in total household income (ΔT) is presented as the difference in total income across the time period (t+1,t) for each percentile, p of the distribution Y^T . In turn, the change in non-labour market income is presented as the difference accordingly over the time period by each percentile for the distribution Y^G . The monetary value therefore of the impact of labour market income (ΔG) on the growth process across the percentiles of the distribution is therefore:

$$\Delta G = \sum_{p=1}^100 L_{p,t,t+1} \quad (7)$$

Where values of $L_{p,t,t+1}$ greater than zero across the percentiles of the distribution are indicative of a positive impact of labour market income on assuring at least absolute pro-poor growth. This is an important extension and application to (5) above, in that it provides for a direct monetary measure, of the impact of the labour market on poor households in the society. In economies where social grants or rural, non-wage labour are consistently supporting the poor over time – the inability of the labour market to generate and sustain pro-poor growth will be evident in the estimates of equation (7). Indeed, the distribution sensitive measure contained in $L_{p,t,t+1}$ means that employment creation and returns to employment which are biased towards those at the upper-end of the distribution, will also be immediately clear.

From the above, it is evident that through utilising household poverty-growth tools, we are able to analyse the relative impact and contribution of labour market activity and earnings to the nature and level of economic growth in an economy. For African economies where such data exists – and indeed we have suggested with specific examples two such countries - it would be crucial to determine the role and importance of the labour market in contributing to pro-poor growth in the individual economies.

Labour Market Income, Inequality and Growth

One aspect of the pro-poor growth literature, which we emphasised at the outset of the paper, is the extent to which income inequality may dissipate some of the gains from growth to poverty reduction. The now widely used technique of Datt & Ravallion (1992) provides for an empirical starting point in examining precisely how shifts in income distribution may have ameliorated the impact of economic growth on poverty reduction⁶.

Very briefly, the Datt-Ravallion methodology revolves around decomposing the change in measured poverty into a growth and redistribution component. The growth component refers to the change in poverty that occurs, if we assume that inequality does not change. The redistribution component is the change in poverty, if mean income levels had not altered (i.e

⁶ An equally useful set of techniques in this area is also provided by Kakwani (1993), but is possibly less intuitively appealing for our context here.

no growth has taken place). Finally, a residual variable captures the interaction between the growth and redistribution effects on poverty. If we take the equation $P(z/u, \Pi)$, where z is the poverty line, u the mean income level and Π the Lorenz curve, then the decomposition proceeds as follows:

$$\Delta P = G + D + R \tag{6}$$

Where t and $t+1$ are the two time periods under discussion, P the poverty measure in the two time periods, $G(\cdot)$ represents the growth component, $D(\cdot)$ the redistribution and $R(\cdot)$ the residual components of the decomposition. We can define the growth and redistribution components in turn by the following:

$$G = P(z/u, \Pi) - P(z/u, \Pi) \tag{7}$$

$$D = P(z/u, \Pi) - P(z/u, \Pi) \tag{8}$$

Where r makes explicit the reference date with respect to the decomposition of the poverty shift (Datt & Ravallion 1992). In essence then, the above measure enables one to examine and discretely measure the relative contributions of changing inequality versus changing income growth to overall poverty changes.

The extension or specific application of the above approach to the labour market is then fairly straightforward. Hence, one can conceive of a number of entry points, as with the GIC application where direct or indirect labour market categories are imposed on the sample in the above estimates. Effectively then, shifts in household poverty can be defined according to the sector of the household head, wage-earning households and so on⁷. The sector of the household head, as we noted above, can be an ideal manner in which to determine whether employment in specific sectors are both growth generating and poverty reducing, when income inequality is accounted for. It is entirely possible therefore for a growing manufacturing industry, to generate employment disproportionately for semi-skilled and skilled workers – and in so doing generate increased income inequality. The result would be a diluted impact on poverty through economic growth. Perhaps a more accurate reflection of the impact of the labour market on poverty reduction, would be to define households according to whether wages were the main source of income or not. More generally, one can derive a set of household types by type of income source. The results of such a Datt-Ravallion growth decomposition could potentially be vital in understanding at least two issues within this area: Firstly, do we find that the labour market is engendering returns which are both generating growth and poverty reduction, when income inequality is allowed to vary? One can think of this being represented, utilising the formulation above by the following:

$$\Delta P = G + D + R \tag{9}$$

Where the growth component of the incomes for wage-earning households, was sufficiently large enough to offset the mal-distribution this could have generated – and hence resulted in household poverty reduction. If equation (9) was true with empirical estimates, it could then be shown that the growth in mean incomes within the defined labour market category was larger than the increase in inequality this generated, so ensuring a decline in overall poverty levels. Secondly though, the value itself of $D(\cdot)$ when using labour market categories, would be indicative of the extent to which the particular form of employment creation and labour

⁷ In many of these cases of course, the actual classification may not be as clean. Hence, wage-earning households for example, could be those households where the more than a pre-defined threshold share of total household income is derived from wage income.

market returns may be generating unequal outcomes at the expense of a reduction in poverty levels. An obvious example would be employment creation disproportionately for skilled workers, which increases income inequality and dissipates the poverty-reducing impact of economic growth. Perhaps more applicable for African economies, would be the growth of the urban informal sector at the expense of rural earners, thus enhancing urban-rural inequality and in turn reducing the impact of economic growth on overall household poverty.

V The Labour Market and Pro-Poor Growth: Additional Considerations

Whilst the above has attempted to provide a formulaic entry point for understanding the role of employment creation and the labour markets in general to growth, poverty and inequality – there are a range of ancillary labour market issues which do require closer scrutiny. We provide below therefore a more descriptive analysis of the manner in which variables such as labour regulation, human capital accumulation and the distinction between the formal and the informal economy should be taken account of, in any discussion (at least within Africa) around the relationship between economic growth, employment creation and poverty.

Va: Labour Regulation And Pro-Poor Growth

The literature on the role of regulation in understanding economic growth, has been given a new lease of life, with the availability of the World Bank's cross-country Doing Business Survey (DBS). The survey has been ongoing since 2004, and in the most recent round in 2006, covered approximately 175 countries. The DBS covers issues such as contract enforcement; property rights regulation; business licensing and of particular interest to us here – labour market regulation⁸. Needless to say, labour regulation has featured centrally as a possible regulatory constraint on economic growth in the various countries for which such data exists.

There are two important policy issues of relevance here to the debate around labour regulation and worker protection – which are of course relevant for many if not all African economies. The first revolves around the consequences of labour regulation in all its different manifestations, for economic growth. Simply put, do we find evidence for the fact that over-regulated labour markets hinder economic growth⁹. The second issue is related, but more concerned with the specific outcomes in the labour market, as a consequence of this regulatory regime: Hence, does the evidence suggest for example, that higher levels of labour regulation are correlated with higher rates of youth unemployment, larger informal employment and so on. The latter serves as an indirect measure of the impact of labour regulation on employment creation and hence growth and poverty reduction.

An admittedly brief scan of the literature indicates a significant quantum of studies suggesting that regulation in general and labour regulation in particular is negatively and significantly associated with growth in per capita GDP (Loayza *et al*, 2005; Forteza & Rama, 2001; Heckman & Pages, 2003). A notable exception is that of Botero *et al* (2004) who find that “*There is no evidence that employment laws or collective relations laws vary with the level of economic development*” (pg1364)¹⁰. Indeed, a more detailed examination of the above literature suggests that the cross-country growth regressions often reflect either on the specific components of the labour regulatory regime that may be hindering growth, or indeed represent the entire gamut of labour legislation as one index. Both these approaches and subsequent results suggest that there is a heterogeneity in the labour regulatory regime that needs to be grasped, and furthermore that this heterogeneity can have a differential impact on economic growth. For example, Forteza & Rama (2001) find in one of their set of results, that over the period 1970-86, the number of ILO Conventions ratified is insignificantly

⁸ The method of data collection is a combination of studying individual country laws & regulations and surveys of local lawyers.

⁹ It should be noted here, that apart perhaps from Guitierrez *et al* (2007) there is little exploration of the link from regulation to economic growth and poverty reduction.

¹⁰ Botero *et al* (2004) show that of all the labour regulation measures, only dismissal procedures in their cross-country regressions are a significant and negative determinant of the log of GNP per capita, while social security provisions are positively associated with growth.

related to GDP growth, but that the minimum wage indicator is negative and significant. Loayza *et al* (2005) in turn, find a significant and negative relationship between economic growth and the labour regulation index, but this index is represent as an aggregate measure, and is not expanded into all the components available within the DBS data.

The evidence on the impact of the labour regulatory regime on specific labour market indicators, in addition, suggest similar outcomes and consequent concerns. Hence higher levels of labour regulation appear to be significantly associated with a larger informal economy; higher informal employment ; reduced male participation rates and higher unemployment rates particularly amongst the youth (Botero *et al*,2004; Loayza *et al*, 2005; Lazear,1990). However, once again, these results are either too aggregated in their measure of labour regulation, or indeed, do reflect on the heterogeneous impact of labour regulation on these labour market indicators. Specifically then, it is not clear whether all components of labour regulation and worker protection encourage the growth of employment, or some components more than others. This would seem to be a critical avenue of enquiry – in order to better assist the current policy debate. In addition, where such specificity is isolated, as in the Botero *et al* (2004) study, one finds that certain components of the labour regime are more important than others in shaping labour market outcomes: Hence protective collective relations laws, but no other components of the labour regulatory architecture, are shown to be associated with a larger informal economy.

The (admittedly incomplete) cross-country regression illustrated in Table 2 below, by simple OLS, serves to illustrate the problem of aggregating across indices to arrive at firm conclusions. The regression simply includes most of the *individual* regulation indices found in the DBS for 2006 as independent variables. The dependent variable is GNI per capita, and in addition to the different regulatory measures, a dummy variable for Sub-Saharan Africa has been included.

Table 1: Regulatory Determinants of Cross-Country Variation in GNI Per Capita

D.V. GNI per capita	Coef.
Starting a Business	
Procedures	-636.065**
Time	8.422
Costs	11.159
Min. Capital	-1.544
Licensing Procedures	
Procedures	-169.234
Time	-15.194***
Costs	-0.443
Labour Regulation & Worker Protection	
Hiring Rigidity	-22.108
Hours Rigidity	78.215**
Firing Rigidity	7.538
Hiring Costs	182.792**
Firing Costs	-2.177
Property Registration	
Procedures	-407.499

Time	-10.859
Costs	-179.402
Getting Credit	
Legal Rights Index	1163.639**
Credit Information Index	-451.318
Public registry coverage (% adults)	58.583
Private bureau coverage (% adults)	167.410*
Protecting Investors	
Disclosure Index	-4730.540
Director Liability Index	-4576.434
Shareholder Suits Index	-5780.036
Investor Protection Index	15482.550
Enforcing Contracts	
Procedures	-187.097**
Time	1.624
Costs	-44.367
SSA Dummy	
Constant	16579.270
<i>Sample Size</i>	164
<i>R-Squared</i>	0.6111
<i>F-Statistic</i>	8.28

Source: Doing Business, 2006 & author's own calculations

*: Significant at the 1% Level; **: Significant at 5% level; ***: Significant at the 10% level.

It is clear that of the individual labour regulatory measures in this, admittedly very simplistic specification, two of the five are significant at the 5% level. Notably however, the sign on the coefficient is positive, indicating for example that higher hiring costs (and hours rigidity) are associated with higher GNI per capita economies. This does not mean however, that regulation in general and labour regulation in particular, is not important in the growth debate. Instead, it does suggest some caution in our interpretation of the published results, and more importantly, their translation into country-level policy interventions without due consideration both to the heterogeneity in the regulatory environment, and country-specific conditions. It should be additionally clear from the above, that more detailed country-specific analysis is necessary, leaning on the DBS results and other similar datasets such as the World Bank's Investment Climate Assessment Surveys (ICAs) for a sample of African economies. In addition, a comparative exercise examining the labour regulatory regimes of low income African and non-African economies could be particularly illuminating on the role of labour regulation in economic growth within a high-poverty context¹¹.

Vb: Human Capital Revisited

The paper has thus far already alluded to the role of skills and education in engendering a particular trajectory of economic growth and poverty alleviation. However, a far more detailed reflection of the relationship between education, employment outcomes and pro-poor economic growth is required for Africa. Whilst this is beyond the scope of the paper, we provide below one possible framework for examining education within the African context, with a view to further expanding on its importance to economic growth and poverty reduction.

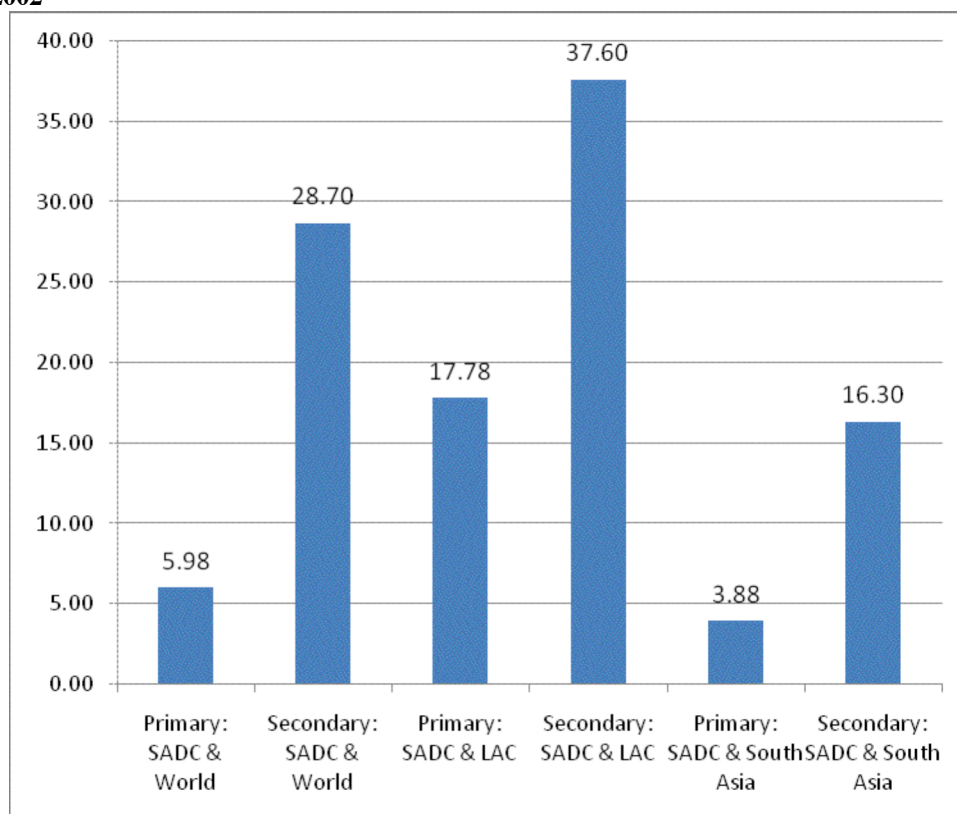
The adequate enrolment of individuals within the post-primary education system, together with the poor quality of this system, remains arguably at the heart of the challenge facing schooling and higher education within many African economies. Understanding firstly, the

¹¹ This type of study, should also be extended to include other elements of a labour regulatory regime not included in the ICAs and DBSs, such as the presence of minimum wage regulation, levels of unionisation and so on.

nature of this schooling and higher education system is key, as they are implicit in any successful shift to significant employment creation, economic growth and poverty reduction.

As a representation of the extent to which secondary schooling enrolment for example, has collapsed relative to other parts of the world, the figure below calculates the gap between primary and secondary school enrolment rates for countries within the Southern African Development Community (SADC) against selected world regions. Figure 7 thus calculates this gap for the Latin America & Caribbean and South & West Asia regions as well against the global median. In each instance, the SADC median values are taken.

Figure 7: Differential Median Primary & Secondary Net Enrolment Rates: SADC and World Regions, 2002

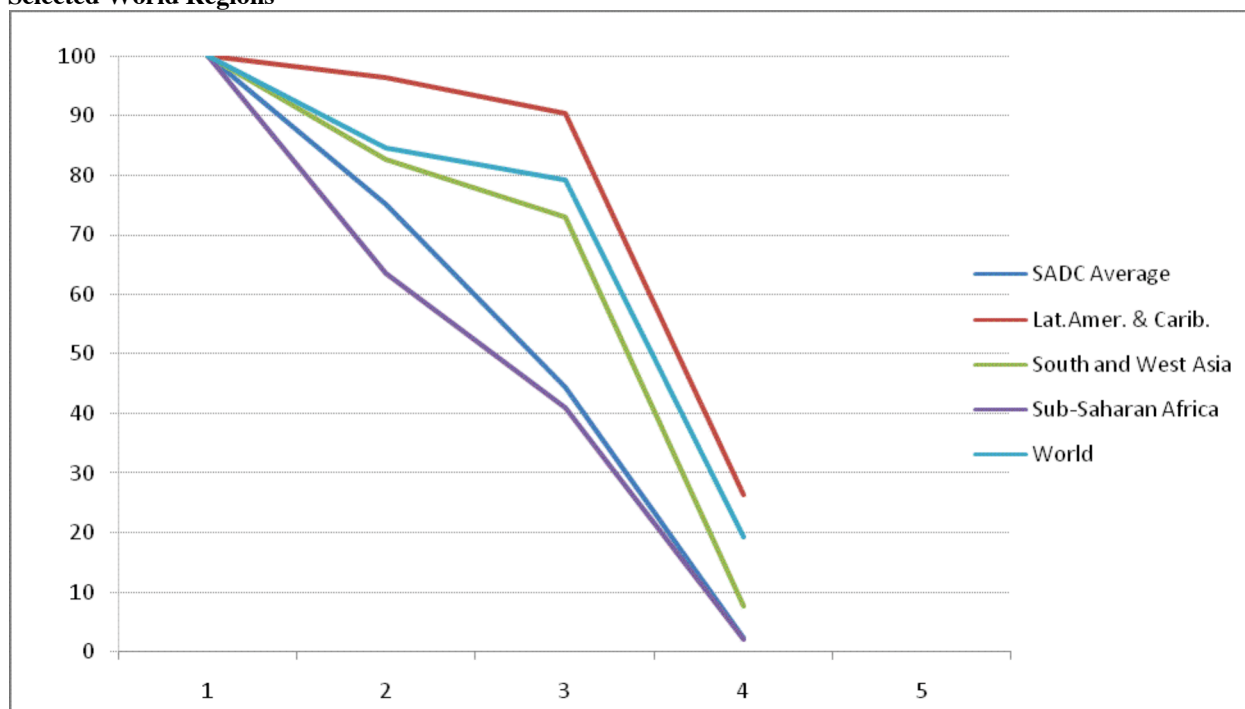


Source: OECD (2006) and author's own calculations

The figure is visually powerful. It is clear that while SADC performance, in terms of primary school enrolment, lags that found in other developing country regions of the world – it is the secondary school results which are disconcerting. The data reveals that for the 2002 cohort of learners, the median secondary schooling enrolment in SADC was some 16 percentage points below that found in South & West Asia. In addition the secondary schooling enrolment was about 29% below the median for the world as a whole, while it was 38% less than the median for Latin America & the Caribbean. Put differently, the differential enrolment rates as one moves from primary to secondary schooling – increase sharply and dramatically. These significant and large shifts in enrolment rates as one moves from primary to secondary schooling – are strongly suggestive of a secondary schooling system within the SADC region which is significantly under-performing relative to international comparators. Given that this segment of the schooling system is vital to ensuring an adequate supply of skilled labour to any growing domestic economy, this result is deeply worrying.

Perhaps a more complete manner in which to describe this poor performance is to examine 'conversion rates' within the educational system for Africa. The data represented in the figure below, calculates the shares of individuals within a cohort who would have enrolled at primary school and then progressed through the schooling and higher education system¹². The data here compares Africa to the world, the LAC and the South & West Asia region.

Figure 8: Conversion Rates from Primary to Tertiary Education: : SADC Economies and Selected World Regions



Source: OECD (2006) and author's own calculations

Notes:

1. Complete data does not exist for the DRC, Lesotho and Zambia.
2. Estimates based on 2002 and 2003 enrollment cohort.

¹² The Technical Vocational, Education & Training (TVET) data was not sufficiently reliable to allow for inclusion into this series. We doubt however, if this would change the substance of the results obtained.

Visually, the data suggests a collapse in conversion rates from primary to secondary schooling, with this almost equally matched by the decline from secondary to tertiary enrolment. In contrast, the retention rates in all other regions of the world presented here, suggest a far better performance than that of SSA and the SADC region economies. Hence, for Africa, the data shows that for every 100 children of primary school age, we can expect, 2 of these individuals to enter the tertiary educational environment. This is an exit rate of 98 percentage points. In the LAC region, 26 of every 100 within the cohort should make it to a higher education, while for South & West Asia the figure is 8 individuals. The global average is 19. This huge and rapid attrition rate out of the schooling system, at both the primary and secondary school level, within the Africa – must stand as probably the most powerful indictment of the ineffectiveness of the continent’s educational institutions. An important addendum to these results, although not shown in detail here, is that the region is also not producing graduates who necessarily possess the supply characteristics which are in demand by employers within the domestic economy. A poor educational system then, is also not meeting labour demand needs and hence is unable to bolster employment creation nor economic growth in Africa.

A final element of the education challenge within the continent also lies with the Technical Vocational, Education & Training (TVET) system – that part of the education system which can and does absorb many early school leavers. It is also, in an efficiently run system, the key provider of the semi-skilled workforce to the labour market. Economies with a large manufacturing base for example, rely on in-country TVET institutions to supply suitably qualified semi-skilled workers. In Africa, this part of the system has suffered from severe under-funding and as a consequence, there is no steady supply of semi-skilled individuals to the labour market. The lack of a deep manufacturing base in Africa arguably is, at least in labour supply terms, due to this wholly non-existent base of semi-skilled, TVET-trained workers. The lack of appreciation of this TVET system is tied in part to the historical preference and tendency to view the higher education sector as defined solely by the university system. There is consequently, a long-held view within most economies in Africa that a university qualification is preferable to a TVET certification. This reputation of the TVET system is in stark contrast to numerous developed economies where a technical or artisanal training is in held in high regard both culturally, and by employers. As manifest of this relative preference for universities over the VET system, the table below presents estimates of enrolment across a sample of African economies for which we have data. The data makes it plain that with the exception of Mauritius, every other economy in the estimates below, has at least twice the number of university enrolments relative to VET enrolments.

Table 2: Comparative Enrolments in the Tertiary Sector, Select African Economies

Country	TVET	University	Ratio of Univ to TVET
Swaziland	994	2954	2.97
Lesotho	973	4582	4.71
Mauritius	8612	6239	0.72
Mozambique	3017	8537	2.83
Namibia	1648	12000	7.28
South Africa	350465	696657	1.99
Sample Mean	365709	730969	2.00

Source: Based on HSRC (2005) and authors’ own calculations

Notes:

1. SADC average only based on countries listed
2. Namibia university enrolment based in UNESCO (2005) data
3. South Africa’s VET figures refer only to full-time equivalents. Part-time equivalents sum to 706 000 individuals, many of whom however may be employed as well.

For example then, Swaziland has approximately three university enrollees for every one attendee at a TVET institution. Lesotho in turn, has close to five times the number of university relative to TVET students. As a reflection of how different this is to many

industrialised, particularly European economies, we compare below the South African tertiary education system enrolment numbers to the United Kingdom. It is immediately evident that South Africa's (and indeed many African economies) enrolment at tertiary institutions is highly skewed towards 'academic' institutions (universities and universities of technology) and away from TVET colleges. In contrast, for the year 2001, the most recent year for which figures could be found, only 36.6% of students attending a tertiary institution in the United Kingdom were attending a university or technical college, with the remainder (63.4%) attending TVET colleges.

Ultimately then, on the basis of the above, it is evident that the collapse of both secondary and tertiary enrolment levels within Africa, are implicit in any discussion around the role of employment creation and the labour market more broadly, in economic growth and poverty reduction. An educational system which is unable to provide an semi-skilled or skilled labour force to meet labour demand needs, is effectively a constraint on growth and poverty reduction. A more detailed assessment of which segments of this system are critical to unlocking employment creation and poverty reduction - in part alluded to by the focus here on the TVET system - is essential to undertake for a sample of African economies.

Vc: The Centrality of the Informal Economy

Despite retaining a dominant rural character, Africa has experienced over the last two decades a significant increase in rates of urbanisation. Africa's population urbanized at an average rate of 2.39% over the period 1980-2000, second only to the East Asia & Pacific region. For Africa, what this means in part, is that the pressure placed on urban labour markets has grown tremendously over the twenty-year period. One of the outcomes of this rapid urbanization process has been to rapidly alter the nature of labour markets within urban areas. Rural households over this two-decade period released members to search for employment in urban areas, or in some cases, entire household units migrated to cities in search of improved access to incomes. Probably the most important labour market consequence of this has been the rapid growth in the informal sector in urban areas around the continent. We turn to the data in Table 3, which elucidates on these trends.

It is evident that for the sample of African economies where data exists, informal employment - characterised here as those in self-employed or working as paid family members in an enterprise - was the dominant form of employment. Hence, the median African economy suggests that 62.3% of all employed are in the informal sector. The estimates range from a low of 14.4% for Botswana to a higher of 91.8% for Ethiopia.

Table XX: Employment by Status for Selected African Economies : 2000-06

	Wage & Salaried			Total Informal
	Workers	Self-Employed	Family Workers	
	% of Total Employed			
Botswana	73.2	12.2	2.2	14.4
Cameroon	19.2	59.3	18.2	77.5
Ethiopia	7.9	41.5	50.3	91.8
Madagascar	15	43.7	40.6	84.3
Mali	13.6	71.4	15	86.4
Mauritius	80.4	17.3	2.1	19.4
Namibia	61.5	16	16.9	32.9
South Africa	80.9	18.3	0.7	19
Uganda	14.5	59.4	26.1	85.5
Zambia	18.7	59.7	19.6	79.3
Zimbabwe	37.7	50.4	11.9	62.3
Algeria	64.8	27.8	7.2	35
Egypt	56.5	29.5	14	43.5
Morocco	37.4	30.9	31.7	62.6
Tunisia	64.3	26.8	8.7	35.5

Mean	43.04	37.6	17.7	55.3
Median	37.7	30.9	15	62.3

Source: African Development Indicators, 2008/9

Notes:

1. Rows may not sum to 100 due to unclassified data
2. Data are for the latest individual year in the range 2000 to 2006 for each country

Indeed, in many economies, the informal sector is the dominant form of labour market activity and a key to deriving incomes and supporting households. Whilst the nature and quality of this support is relatively unknown given the paucity of data (an issue we raise below), the informal economy is key to understanding both employment creation and pro-poor growth in Africa. It would be crucial however, in order to better understand the informal sector, to detail employment in urban (and rural) informal economies by occupation, sector, level and frequency of earnings and so on. It is only with this detailed cross-section of data that a more considered understanding of the role of the informal economy in generating pro-poor growth in African can be appreciated.

Finally though, within the context of the importance of the informal economy to pro-poor growth in Africa, a more detailed debate is required around the nature of policy responses and interventions required for this sector to flourish. A few important considerations, although by no means exhaustive, we would argue must be part of any detailed discussion around the informal sector and pro-poor growth: These include building linkages between the formal and informal economies in domestic economies; protection of the informal sector through insurance and credit market access and revisiting the role of state procurement. Linkages between the formal and informal economies could involve ensuring that non-core functions of large formal firms are outsourced – as part of a deliberate strategy – to informal operators. Whilst in many developing economies this happens in an unfettered manner, for many African economies a deliberate strategy of large firm engagements with the informal economy may be required. In terms of insurance and credit market access, whilst the latter constraint is generally appreciated in the literature, it is often not understood how critical insurance (and in particular short-term insurance) is to the survival of informal operators. Short-term insurance is non-existent for many informal operators and hence these individuals are prone to negative shocks which can very often destroy livelihoods. The loss of or damage to equipment or goods in inventory through a variety of means, ultimately bankrupts the business and hence acts as a constraint on growth in the informal sector. Providing cheap (yet still profitable) short-term insurance to cushion the informal sector against such risks, would seem to be vital if it is to sustainably contribute to pro-poor growth in Africa. Finally, another policy intervention worth considering is that of how state procurement and state contracts are able to involve the informal sector. South Africa's Broad-Based Black Economic Empowerment (BBBEE) strategy is for example designed to ensure that private and public sector investment decisions incorporate the previously disadvantaged. The BBBEE policy has significant problems, but certainly provides for a portal through which the state can engineer a redistribution of wealth through the market. State procurement provisions and their alignment to the poor would seem worthy of some further exploration for Africa – with a focus on how procurement policies can be specifically tailored to support the informal sector.

Va: An Application to African Economies: An Addendum

The above has suggested a variety of different, complementary approaches to investigating the role and impact of the labour market in understanding growth, poverty and inequality outcomes in Africa. Whilst all techniques are indeed possible, the choice of countries is severely hampered by the availability of data. The data constraints relate both to the frequency of such micro-data as well as the type of datasets which may be required for the type of analysis proposed above. In many cases then, a combination of household surveys, labour force surveys and income & expenditure surveys are all required for at least two years. This requirement would already narrow down the list of countries wherein such analysis is possible. We provide in the appendix below (Table A1), a very brief and in all probability incomplete, guide to the datasets that are available for economies within Africa for the 2000-

2008 period. As should be clear, whilst there is a fair spread of datasets across at least 36 countries in Africa, the data is either seldom available in multiple years or the country under consideration is highly unlikely to collect data across all relevant micro-datasets such as income & expenditure surveys, labour force surveys and general household surveys. Countries where more than one type of micro-dataset is present include for example Benin, Botswana, Cameroon, Ethiopia, Gabon, Madagascar, Malawi, Mauritius, Morocco, Mozambique, Rwanda, Seychelles, Tanzania, Tunisia, Zambia. In order to understand growth-labour market dynamics however, as should be evident from the above, more than 1 year of data is required. For the period 2000 to the present, African economies fulfilling this criterion include Benin, Ethiopia, Morocco, South Africa, Tanzania and Zambia. It is possible however, that with a wider range in years, and possibly locating unofficial datasets, more countries would enter this sample¹³.

The above however indicates the constraint on the number of economies that the above methodologies can be applied to, and of course the quality of such analysis. Indeed, it may be a fruitful exercise to provide a more comprehensive audit of all available micro-data relevant to socio-economic issues, going back possibly over the last decade. This could go a long way toward understanding where the data deficiencies in labour market (and other) applied economic analysis lie.

VI: Conclusion

The above has shown that ranging from the relationship between output and employment through the relevant elasticities, to the estimates of labour-intensive growth in cross-country regressions – the role of the labour market in understanding growth, poverty and inequality outcomes is central. It is also clear however, that this remains a relatively under-researched area, and nowhere more so than for Africa. Arguably however, through the proposed extensions to standard tools of pro-poor growth analysis, developed above such as the Growth Incidence Curves and the Datt-Ravallion decompositions empirically robust estimates of the role of the labour market to the growth process can be derived. Whilst this area of investigation is arguably the most interesting, any discussion on the role of the labour market should not overlook issues related to human capital, labour regulation and particularly in the African context – urban and rural informal sector participants.

Ultimately then, whilst perhaps an intuitively easy exercise, the notion of trying to locate the role and importance of the labour market in understanding growth, poverty and inequality in a developing country context – is surprisingly complex. Whilst we certainly have not been exhaustive in our overview here, it is hoped that through the presentation of current thinking as well as the suggestion of new extensions to existing methodologies, a more nuanced understanding and interpretation of the centrality of labour market dynamics to pro-poor economic growth can be achieved.

¹³ Namibia for example, has household surveys which are 10 years apart (1994 and 2004).

References

- Botero, J.C., S.Djankov, R. La Porta, F. Lopez-de-Silanes and A. Shleifer, (2004) The Regulation of Labour, *Quarterly Journal of Economics*. November. 1339-1382
- Datt, G. & Ravallion, M. 1992. Growth and Redistribution Components of Changes in Poverty Measures. *Journal of Development Economics*. 38. pp. 275-295.
- Dollar, D & A.Kraay (2002) Growth is Good for the Poor. *Journal of Economic Growth* . 7(3): 195-225
- Forteza, Alvaro and Martín Rama (2001), "Labor Market Rigidity and the Success of Economic Reforms across More than 100 Countries," mimeo. The World Bank: Washington DC
- Foster, J.E., Greer, J & Thorbecke, E. 1984. A Class of Decomposable Poverty Measures, *Econometrica*. Vol 52.
- Gutierrez, C, C.Orecchia, P.Paci & P.Serneels (2007) *Does Employment Generation Really Matter for Poverty Reduction?* World Bank Research Working Paper. No. 4432. Washington, D.C.: World Bank.
- Heckman, J & C.Pagés (2003) Law and Employment: Lessons from Latin America and the Caribbean. *NBER Working Paper 10129* . www.nber.org/papers/w10129
- Huppi, M. and Ravallion, M. 1991. "The Sectoral Structure of Poverty During an Adjustment Period: Evidence from Indonesia in the Mid-1980s." *World Development* 19(12).
- Islam, R (2004). *The Nexus of Economic Growth, Employment and Poverty Reduction: An Empirical Analysis*. Recovery and Reconstruction Department. International Labour Office: Geneva.
- Kakwani, N. 1993. Poverty and Economic Growth with Application to Côte D'Ivoire. In *Review of Income and Wealth*. 39 (2) June 1993.
- Kanbur, R (2008) *Globalisation, Growth and Distribution: Framing the Questions*. Commission on Growth and Development. Working Paper No. 5. The World Bank: Washington
- Kanbur, R (2005) Growth, Inequality and Poverty: Some Hard Questions. *Journal of International Affairs*. Spring.
- Kanbur, R & L.Squire (1999) The Evolution of Thinking About Poverty: Exploring the Interactions. in G. Meier and J. Stiglitz (eds.) *Frontiers of Development Economics: The Future in Perspective*, Oxford University Press.
- Lazear, E Job Security Provisions and Employment (1990) *Quarterly Journal of Economics*. August. 699-726.
- Lerman, R.I., Yitzhaki, S., 1985. Income Inequality Effects by Income Source: A New Approach and Applications to the United States. *The Review of Economics and Statistics* 1, 151-156
- Li, H., Lyn Squire and H.F. Zou. 1998. "Explaining International Inequality and Intertemporal Variations in Income Inequality." *Economic Journal*. Volume 108. pp 26-43.
- Loayza, N & R.Claudio (2006). *The Composition of Growth Matters for Poverty Alleviation*. World Bank Research Working Paper. No. 4077. Washington, D.C.: World Bank.
- Loayza, N, A.M.Oviedo & L.Serven (2005) *The impact of Regulation on Growth and the Informal Sector: Cross Country Evidence*. Unpublished mimeo. World Bank: Washington DC.
- Ravallion, M (1997). "Can High-Inequality Developing Countries Escape Absolute Poverty?" *Economics Letters* 56: 51-57.
- — — . 2000. "On Decomposing Changes in Poverty into Growth and Redistribution Components." *Journal of Quantitative Economics* 16(1): 105-18.

_____, 2001. "Growth, Inequality and Poverty: Looking Beyond Averages," *World Development*, 29(11): 1803-1815.

Ravallion, M & S.Chen (1997). "What Can New Survey Data Tell Us About Recent Changes in Poverty and Distribution?," *World Bank Economic Review*, 11(2): 357-382

Ravallion, M & G.Datt (2002) Why has economic growth been more pro-poor in some states of India than others? *Journal of Development Economics* 68: 381– 400

Ravallion, M (2004) *Pro-Poor Growth: A Primer*. World Bank Research Working Paper 3242. The World Bank: Washington

Satchi, M., and Temple, J. (2006). *Growth and Labor Markets in Developing Countries*. Department of Economics, University of Bristol Discussion Papers. Bristol: United Kingdom.

Appendix

Table A1: Availability of Socio-Economic MicroDataSets in Africa, 2000-2008, by Type of Data.

Country	IES/HH survey	LSMS	LFS	Priority Survey (World Bank)
Angola	√	X	X	X
Benin	√	X	√*	X
Botswana	√	X	√	X
Burkina Faso	X		X	√
Cameroon	√	X	X	√
CAR	X		X	X
Cape Verde	√	X	X	√
Chad	X	X	X	√
Congo, Rep of	X	X	X	√
Djibouti	X	X	X	√
Egypt, Arab Rep.	√	X	X	X
Ethiopia	√*	X	√*	√
Gabon	√*	X	X	X
Ghana	X	√	X	X
Guinea	√	X	X	X
Lesotho	√	X	X	X
Liberia	√	X	X	X
Madagascar	X	X	√	√
Malawi	X	√	X	X
Mali	√	X	X	√
Mauritius	√	X	√	X
Morocco	√	X	√*	X
Mozambique	√	√	X	X
Namibia	√	X	X	X
Niger	X	X	X	√
Nigeria	√	X	X	X
Rwanda	√	X	X	√
Senegal	√	X	X	X
Seychelles	√	X	√	X
South Africa	√*	X	√*	X
Swaziland	√	X	X	X
Tanzania	X	√	√*	√
Tunisia	√	X	√	X
Uganda	√	X	X	√
Zambia	X	X	√*	X
Zimbabwe	X	X	√	X

Source: IHSN Survey catalogue (<http://www.surveynetwork.org/home/?lvl1=activities&lvl2=catalog&lvl3=surveys#>), accessed December 2008.

Note: * indicates that more than 1 year of data is available.