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Inclusive Growth Analytics

Framework and Application

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Abstract

This paper argues that inclusive growth analytics has a distinct character focusing on both the pace and pattern of growth. Traditionally, applied country-specific poverty and growth analyses have been done separately. This paper describes the conceptual elements for an analytical strategy aimed to integrate these two strands of analyses, and to identify and prioritize country-specific constraints to sustained and inclusive growth. The authors apply the framework to the case of Zambia. The analysis suggests that income growth in Zambia is constrained by poor access to domestic and international markets, inputs, extension services, and information. High indirect costs—mostly attributable to infrastructure service-related inputs in production including energy, transport, telecom, water, but also insurance, marketing, and professional services—undermine Zambia's competitiveness, limit job creation, and therefore serve as a major constraint to inclusive growth. Improving the quality and access to secondary and tertiary education is essential if the poor are to benefit from future growth of the non-farm economy. Weak governance and, in particular, poor government effectiveness are factors behind the market coordination failures and the identified government failures, and are as such major obstacles to inclusive growth in Zambia.

Inclusive Growth Analytics: Framework and Application

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1 Defining Inclusive Growth

Rapid and sustained poverty reduction requires inclusive growth that allows people to contribute to and benefit from economic growth.[2] Rapid pace of growth is unquestionably necessary for substantial poverty reduction, but for this growth to be sustainable in the long run, it should be *broad-based* across sectors,[3] and *inclusive* of the large part of the country's labor force.[4] This definition of inclusive growth implies a direct link between the macro and micro determinants of growth. The micro dimension captures the importance of structural transformation for economic diversification and competition, including creative destruction of jobs and firms.

Inclusive growth refers *both* to the pace and pattern of growth, which are considered interlinked, and therefore in need to be addressed together. The idea that both the pace and pattern of growth are critical for achieving a high, sustainable growth record, as well as poverty reduction, is consistent with the findings in the *Growth Report: Strategies for Sustained Growth and Inclusive Development* (Commission on Growth and Development, 2008). The commission notes that inclusiveness – a concept that encompasses equity, equality of opportunity, and protection in market and employment transitions – is an essential ingredient of any successful growth strategy. The Commission on Growth and Development (2008) considers systematic inequality of opportunity "toxic" as it will derail the growth process through political channels or conflict. Here we emphasize the idea of equality of opportunity in terms of access to markets, resources, and unbiased regulatory environment for businesses and individuals.[5]

The inclusive growth approach takes a long term perspective as the focus is on productive employment rather than on direct income redistribution as a means of increasing incomes for excluded groups. In the short run, governments could use income distribution schemes to attenuate negative impacts on the poor of policies intended to jump start growth, but transfer schemes cannot be an answer in the long run and can be problematic also in the short run.[6] In poor countries such schemes can impose significant burdens on already stretched budgets, and it is theoretically impossible to reduce poverty through redistribution in countries where average income falls below US$ 700 per year. According to a recent OECD study, even in developed countries, redistribution schemes cannot be the only response to rising poverty rates in certain segments of the population (OECD, 2008).

The inclusive growth definition is in line with the absolute definition of pro-poor growth, but not the relative definition. Under the *absolute* definition, growth is considered to be pro-poor as long as poor people benefit in absolute terms, as reflected in some agreed measure of poverty

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[2] This statement is in line with the OECD Development Assistance Committee's policy statement on pro-poor growth. However, a difference between pro-poor and inclusive growth is that the pro-poor approach is mainly interested in the welfare of the poor while inclusive growth is concerned with opportunities for the majority of the labor force, poor and middle-class alike.

[3] Imb and Wacziag (2003) show that countries diversify their economic base over most of their development path. Countries start specializing quite late in the development process, and the turnaround point occurs at a robust level of income per capita (around constant 1985 $10,000). They conclude that increased sectoral specialization applies only to high-income economies. It is important to note that some countries may not broaden their economic base as they develop, due to their specific economic conditions (e.g. small states).

[4] Encouraging broad-based and inclusive growth does *not* imply a return to government-sponsored industrial policies, but instead puts the emphasis on policies that remove constraints to growth and create a level playing field for investment.

[5] According to the report of the Commission on Growth and Development, persistent, determined focus on inclusive long-term growth by governments is one of the ingredients of a successful growth strategy. Yet, there is limited analytic work integrating the literature on growth and productive employment.

[6] The term 'shared growth' can be misunderstood as implying a focus on income distribution schemes, which is why inclusive growth is preferred.

(Ravallion and Chen, 2003). In contrast, in the *relative* definition, growth is "pro-poor" if and only if the incomes of poor people grow faster than those of the population as a whole, i.e., inequality declines. However, while absolute pro-poor growth can be the result of direct income redistribution schemes, for growth to be inclusive, productivity must be improved and new employment opportunities created. In short, inclusive growth is about enlarging the size of the economy, rather than redistributing resources. In short, inclusive growth is about raising the pace of growth and enlarging the size of the economy, while leveling the playing field for investment and increasing productive employment opportunities.

By focusing on inequality, the relative definition could lead to sub-optimal outcomes for both poor and non-poor households. For example, a society attempting to achieve pro-poor growth under the relative definition would favor an outcome characterized by average income growth of 2 percent where the income of poor households grew by 3 percent, over an outcome where average growth was 6 percent, but the incomes of poor households grew by only 4 percent. While the distributional pattern of growth favors poor households in the first scenario, both poor and non-poor households are better off in the second scenario. *There is broad recognition that when poverty reduction is the objective, then the absolute definition of pro-poor growth is the most relevant* (DFID, 2004). Using the absolute definition, the aim is to increase the rate of growth to achieve the greatest pace of poverty reduction.

Inclusive growth focuses on ex-ante analysis of sources of, and constraints to sustained, high growth, and not only on one group – the poor. The analysis focuses on ways to raise the pace of growth by utilizing more fully parts of the labor force trapped in low-productivity activities or completely excluded from the growth process. This is in contrast to the pro-poor growth literature, which has traditionally focused on measuring the impact of growth on poverty reduction by tracking various poverty measures.

Policies for inclusive growth are an important component of most government strategies for sustainable growth. For instance, a country that has grown rapidly over a decade, but has not seen substantial reduction in poverty rates may need to focus specifically on the inclusiveness of its growth strategy, i.e. on the equality of opportunity for individuals and firms.[7] Other examples can be drawn from resource-rich countries. Extractive industries usually do not employ much labor and the non-resource sectors typically suffer contractions associated with Dutch disease effects during boom periods. These cases may call for analysis of constraints to broad-based growth with a particular emphasis on the non-resource sectors in the economy.[8] Moreover, in countries starting at a very low income level and low growth, an inclusive growth approach would be very close to an approach for speeding up the pace of growth, as the main focus should be on getting the fundamentals for growth right.

2   What Does the Literature Tell Us?

A high pace of growth over extended periods of time is a necessary, and often the main contributing factor in reducing poverty as found by a sizable body of literature including Deininger and Squire (1998), Dollar and Kraay (2002), White and Anderson (2001), Ravallion (2001) and Bourguignon (2003). In a frequently cited cross-country study, Kraay (2004) shows that growth in average incomes explains 70 percent of the variation in poverty reduction (as measured by the headcount ratio) in the short run, and as much as 97 percent in the long run. Most of the remainder of the variation in poverty reduction is accounted for by changes in the distribution, with only a negligible share attributed to differences in the growth elasticity of

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[7] See for example *What Are the Constraints to Inclusive Growth in Zambia?* Report No. 44286-ZM (World Bank, 2008).

[8] See, for example, *Mongolia: Sources of Growth,* Report No. 39009-MN (World Bank, 2007).

poverty. Lopez and Servén (2004) suggest that for a given inequality level, the poorer the country is, the more important is the growth component in explaining poverty reduction.

Sustained, high growth rates and poverty reduction, however, can be realized only when the sources of growth are expanding, and an increasing share of the labor force is included in the growth process in an efficient way. From a static point of view, growth associated with progressive distributional changes will have a greater impact in reducing poverty than growth which leaves distribution unchanged. Evidence in White and Anderson (2001) suggests that in a significant number of cases (around a quarter) distribution has been as important as growth in explaining the income growth of the poor.[9]

Some policies may have a positive effect on both growth and inequality. The empirical cross-country literature suggests that growth has neither a positive nor a negative effect on inequality,[10] and that the impact of inequality on growth is ambiguous.[11] These results do not imply the absence of links when looking at a specific policy or a specific country. Lopez (2004b) surveys the empirical literature and concludes that macroeconomic stability related to inflation, as well as education and infrastructure-related policies seem to be win-win or 'super pro-poor' policies that have both a positive effect on growth and a negative effect on inequality.

Moreover, asset inequality rather than income inequality may matter for growth outcomes. Deininger and Squire (1998) use land distribution as a proxy for asset inequality and show that high asset inequality has a significant negative effect on growth. Controlling for initial asset inequality, Birdsall and Londono (1997) show that income inequality does not seem to play a role in expanding growth outcomes.

The cross-country literature on both growth and pro-poor growth has been criticized for not giving enough guidance to policy makers. Much of the so-called pro-poor growth agenda has been focusing on aggregated income and poverty statistics, measuring to what extent growth was reducing poverty, and analyzing whether and why poverty was reduced in an absolute or relative sense. In the beginning of the 2000´s, however, a new wave of literature emerged focusing on the importance of the context and ex ante analysis of constraints to future economic development.[12] Several cross-country studies have shown that growth determinants are highly dependent on initial conditions such as levels of income, poverty, and asset inequality, but also a host of other factors such as geography, demography, governance, politics, social considerations, and the set of existing policies. These differ not only between countries, but also over time within the same country.

One key example of the post-1990s literature is the volume *Economic Growth in the 1990s: Learning from a Decade of Reform* (World Bank, 2005). It concludes that although the necessary fundamentals for growth, such as a stable macroeconomic environment, enforcement of property rights, openness to trade, and effective government, are key factors in the growth process, they are not the whole story. This work and the work of the Growth Commission highlight the diverse ways in which the fundamentals can interact with policies and institutional setups in different country contexts.

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[9] White and Anderson (2001) constructed the data set using the Deininger and Squire database. They identify 143 growth episodes in all, of which about half are from developing countries. Coverage of Africa was weak, with only Zambia appearing from Sub-Saharan Africa. Data for the countries of the former Soviet Union and Eastern Europe were only up to the 1980s, thus pre-dating the large increases in inequality which took place in the early 1990s.

[10] See Deininger and Squire (1996), Ravallion and Chen (1997), Easterly (1999), and Dollar and Kraay (2002).

[11] Alessina and Rodrik (1994) and Perotti (1996) find a negative relationship, Li and Zhou (1998) and Forbes (2000) find a positive relationship, and Barro (2000) and Lopez (2004a) find no relationship.

[12] Analyses of sources of growth, such as growth decomposition and poverty decomposition, are however still important to our understanding of country-specific context and past sources of growth.

An important insight from this stream of research is that numerous distortions exist at any time in a given country, and that some are more important than others. Moreover, as posited in the theory of the second best, it can actually be *welfare reducing* to institute reforms that remove some distortions as long as other distortions remain, which is the case in all real economies.[13] Targeting the distortion associated with the biggest multiplier,[14] and therefore the largest direct welfare impact, is a good alternative since the second best effects are typically hard to estimate with accuracy. Other options include targeting all distortions at once (a strategy sometimes associated with the Washington Consensus approach) - often an infeasible option due to financial and capacity constraints, especially in low-income countries. But targeting the biggest distortion or a number of distortions may not lead to a welfare improvement, because of the possibility of large second best effects.

It is against this background that Hausmann, Rodrik, and Velasco (HRV) (2005) develop a heuristic approach to identifying the most binding constraint to growth**,** i.e., the one with the largest shadow price so as to increase the chance of a positive welfare effect. They use a decision tree framework (See Figure 2) based on the "Euler equation" or "Keynes-Ramsey rule" which captures many of the most important factors affecting growth of an economy in the short-run:[15]

$$\frac{\dot{k}_t}{k_t} = \frac{\dot{c}_t}{c_t} = \sigma(c_t)(r_t(a_t, \theta_t, x_t)(1 - \tau_t) - \rho),$$

which holds in the case of balanced growth equilibrium. In this equation, *c* is consumption per capita; *k* is capital per worker, *a* is technological progress; θ is index of externality; *x* is availability of complementary factors of productions, such as infrastructure or human capital; τ is the tax rate; $\rho=z+n$ is the real interest rate; *n* is population growth; *z* is the rate of time preference; σ is the inverse of the negative of the elasticity of marginal utility; $\rho=z+n$ is the real interest rate; *n* is population growth. If the cost of capital ρ is high for any return on investment, investment is low and the economy is considered *liquidity constrained*. If the rate of return *r* is low, for any cost of capital, investment is low and the economy is *considered inefficient*.[16]

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[13] In formal terms, $du / d\tau_i = -\lambda_i + \sum_j \lambda_j \partial(\mu_j^s - \mu_j^p)/\partial\tau_i$, where *u* is welfare, τ_i is a distortion in activity *i*,

λ_i is the Lagrange multiplier corresponding to the constraint associated with the distortion in activity *i*, μ_i^s

represents the net marginal valuations of activity *i* by society *s*, and μ_i^p by private agents. The direct effect

is always welfare improving, but the indirect effect may not be, implying a possibility that welfare may decline if the indirect effect is negative and larger than the direct effect.

[14] The distortion associated with the biggest multiplier effect is the binding constraint.

[15] This is the Hamiltonian for the simplest Ramsey-type optimal growth model which assumes that households have perfect foresight and need to decide how much labor and capital to rent to firms, and how much to save or consume by maximizing their individual utility subject to their budget constraint. Firms maximize profits at each point in time and produce a single good. In their production function, technology is exogenous, and so are the complementary factors of production and the index of externality. The government spending requirements are assumed to be fixed exogenously, the government imposes a tax on the rental price of capital, so the after-tax return to capital is *r(1-τ)*.

[16] The cost of finance ρ may be high because the country has limited access to external capital markets or because of problems in the domestic financial market. A country may have difficulties accessing external capital markets for a variety of reasons including high country risk, unattractive FDI conditions, vulnerabilities in the debt maturity structure, and excessive regulations of the capital account. Bad local finance may be due to low domestic saving and/or poor domestic financial intermediation. Return to capital *r* may be low due to insufficient investment in complementary factors of production, such as infrastructure and human capital, low land productivity due to poor natural resource management, or low private returns to capital due to high taxes, poor property rights, corruption, labor-capital conflicts, macro instability, and market failures, such as coordination externalities and learning externalities affecting negatively the country's ability to adopt new technologies.

There are important lessons to learn from this approach including that development policy is country-specific, may involve just a few reforms that can be optimally sequenced to relax binding constraints, and it may lead to large positive welfare impacts. However, finding the binding constraints requires careful thinking. Some of the criticisms of this approach emphasize that it is (i) in practice impossible to estimate shadow prices; (ii) very difficult to reject constraints as not binding; and that (iii) the analysis is focused on the short term, and therefore ignores factors important to sustainable growth such as human capital accumulation.

The analysis is also undertaken at an aggregate level, offering little insight about constraints affecting different sectors, types of firms or the obstacles to economic transformation in the long run. Economic transformation is important for sustained, broad-based growth and it allows economies to catch up by sustaining high growth rates over extended periods of time (Romer 1990, Aghion and Howitt 1992, Aghion *et al.* 2005). Empirical evidence shows that not a single country has been able to achieve significant income growth and poverty reduction without structural transformation and economic diversification (Imbs and Wacziarg, 2003). For low income countries and countries with small domestic markets, structural transformation implies export diversification as access to foreign markets enables countries to realize economies of scale (Hausmann, Hwang and Rodrik 2007). The HRV framework also abstracts from conditions affecting the ability of individuals to engage productively and contribute to economic transformation.[17]

3   An Inclusive Growth Framework

The HRV framework is just one among many approaches to inclusive growth analytics. It is particularly relevant in cases where the income level is low, growth is slow and investments are low. Against this background, the HRV framework is an appropriate framework to study issues of inclusive growth since growth is the main driver of poverty reduction. In cases when growth is concentrated in a few sectors or specific types of economic actors, the HRV framework should be modified and supplemented with analysis of constraints to growth in the slow-growing and emerging sectors, and constraints to individuals to contribute and benefit from growth. The final appropriate framework will depend on country and time specific factors.

In cases when growth is high but poverty reduction stagnates, the analysis could be carried out using an inclusive growth analytics framework which is eclectic in spirit.[18] It blends the diagnostic approach with different techniques applied to time-series, firm and household survey data, and cross-country benchmark comparisons to answer questions about trends, constraints to, and sources of sustainable, broad-based growth. The economic agent in an inclusive growth analytics framework is the individual rather than the firm, but individuals employed in firms earn returns to their employment – either as self- or wage-employed. The analysis does not need to be limited to the poor, but could be done from the perspective of different groups in the labor force, e.g. people living in a lagging region, migrants, women, and others. If one defines the income of any individual *i* as:

$$y_i \equiv w_1 E_1 \omega_{i1} + \ldots + w_j E_j \omega_{ij}$$

where w_j are the prices, E_j – the endowments of each of the economy's *j* factors, and ω_{ij} – the share of the jth factor owned by individual *i*. Then, dividing each side by total income and summing over a specific group of individuals, for example the poor, one obtains:

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[17] The HRV framework includes human capital as a likely constraint from the perspective of firms, but does not look at whether skills limit the ability of certain groups to engage in economic development, and the constraints limiting investment in human capital.

[18] This framework was inspired by the framework of the "Integrated Economic Analysis for Pro-Poor Growth" (Sida 2006).

$$\psi_P \equiv \lambda_1 \omega_{P1} + ... + \lambda_j \omega_{Pj}$$

where ψ_P is the share of income received by the group of interest, λ_j is the share of factor i in total income, and ω_{Pj} is the share of factor j owned by the group. This identity indicates the variables which affect the income share of the focus group.

The main instrument for a sustainable and inclusive growth is assumed to be *productive* employment.[19] *Employment growth* generates new jobs and income for the individual - from wages or self-employment - while *productivity growth* has the potential to lift the wages of those employed and the returns to the self-employed. After all, in many low-income countries the problem is not unemployment, but rather underemployment. Hence, inclusive growth is not only about employment growth, but also about productivity growth. There is no preconception or bias in favor of labor-intensive industry policies. Indeed, the self-employed need improvements in productivity and leveling of the business environment in order to raise their incomes,[20] and the wage employed need the same indirectly.

The ability of individuals to be productively employed depends on the opportunities to make full use of available resources as the economy evolves over time. The analysis therefore looks at ways to strengthen the productive *resources and capacity* of the individual on the labor supply side as well as ways to open up new *opportunities* for productive employment on the labor demand side. If the main problem is lack of employment opportunities for a particular group of individuals due to limited supply of certain types of labor skills, the constraints are related to the productive resources and capacity of individuals rather than the environment in which they can use these resources. This situation calls for an in-depth employability analysis that will shed light on the resources of the individuals, e.g. the individuals' education, health and the other productivity attributes they bring to a job. If the main problem is low labor productivity or lack of employment opportunities for the individuals due to limited demand for labor, an analysis of the bottlenecks in the business environment is necessary (the HRV approach being one example).

The analysis distinguishes between self- or wage-employed, and further looks at employment by sector, size of firm, rural/urban, formal/informal, and other relevant characteristics. A disaggregate look is necessitated by our main objective to identify the incidence of growth across the income distribution and the bottlenecks to the productive employment of individuals. For example, if the focus is on the poor, in the case of the self-employed, we would in most cases focus on a business environment analysis through the lenses of the small and micro enterprises (Figure 1). In the case of the wage employed, we would in most cases focus on an employability analysis as well as a business environment analysis through the lenses of a representative firm, potentially employing the poor (Figure 1).[21]

The business environment analysis follows, but is not limited to, the aggregate-type of growth diagnostics suggested by Hausmann, Rodrik and Velasco (2005). Their organizing framework can be represented as a decision tree as presented in Figure 2. In this analysis the main question is how to raise investments and entrepreneurial activities which are determined by the relationship between *private returns* to economic activities and *cost of finance*. Private returns in turn are determined by *social returns*, which depend on complementary factors or inputs that individuals cannot or has very low incentives to provide - such as geography, technology, infrastructure and human capital, and the *private appropriability* of these returns. Private

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[19] According to the Commission on Growth and Development report (2008), sustained high growth requires rapid incremental productive employment.

[20] Returns to capital, land and other assets determine the income potential of the self-employed as shown in the identity above.

[21] Note that the analysis of labor skills as a potential constraint for the self-employed is captured in the business environment analysis where it is analyzed as a constraint to growth of the small firm.

appropriability reflects the extent to which social returns are translated into private returns and is negatively affected by government failures and/or market failures.

Figure 1: Inclusive growth analytics

Economic Growth

Income increases through productive employment

Poverty Reduction

Self-employed

Wage-employed

Business Environment Analysis

Employability Analysis
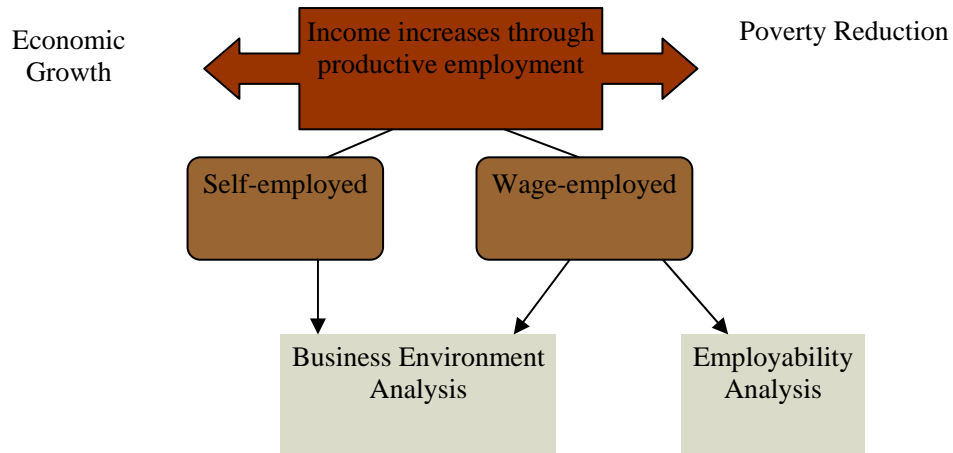
Figure 2: Business environment analysis

Business Environment Analysis

Returns to economic activity

Cost of finance

Social Returns

Private Appropriability

International sources of finance

Local sources of finance

Government failures

Market failures

Domestic savings

Financial sector intermediation

Macro risks

Micro risks
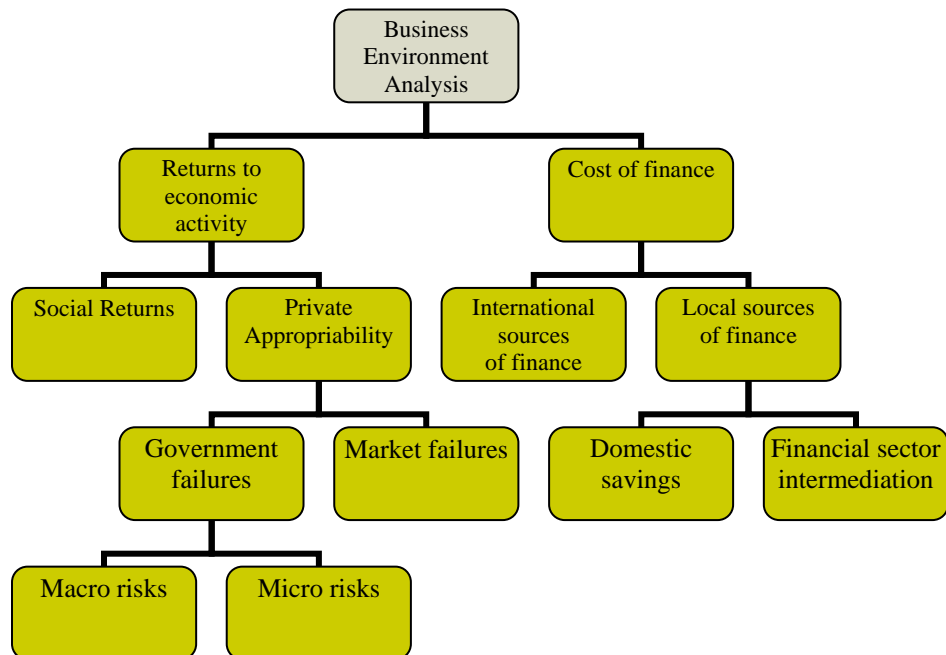
Source: Adapted from Hausmann, Rodrik and Velasco (2005)

An important question is the extent to which the current employment status of an individual has a potential for future income growth, or if moving out of a low-income situation means finding another type of employment or employment in another sector. The analysis therefore looks at external factors explaining the country's growth and poverty reduction pattern, the overall productivity dynamics in the country, the major challenges and opportunities, and possibilities for economic transformation and diversification. The analysis also considers constraints to those sectors with opportunities for productive employment, constraints affecting

the ability to gain employment in these sectors, and constraints affecting labor mobility across sectors and regions.

The inclusive growth approach takes a longer term perspective. As mentioned, this is necessary because of the emphasis on improving the productive capacity of individuals and creating conducive environment for employment, rather than on income redistribution as a means of increasing incomes for excluded groups. Due to this longer term perspective, there is an explicit focus on structural transformation and internal migration in the inclusive growth analytics framework.[22] The goal is to identify a bundle of binding constraints rather than *the* binding constraint, and then sequence these constraints to maximize inclusive growth in a country.[23]

With this longer term perspective, it is important to recognize the time lag between reforms and outcomes. A good example is the lag between the time when investments in education are made and the time when returns from improved labor skills are collected. This implies that the analysis must identify future constraints to growth that may not be binding today, but that may need to be addressed today in order to ensure sustainable and inclusive growth. Inclusive growth analytics is about policies that should be implemented in the short run, but for sustainable inclusive growth in the future.

There are three main steps involved in an inclusive growth analytics.

(1) The first one involves a *background analysis*, including an understanding of major factors explaining the country's past growth and poverty reduction trends and trend-breaks, overall productivity and employment dynamics in the country, major challenges and opportunities faced, and possibilities for economic transformation and diversification.

(2) The second one consists of putting together the *profile of economic actors*, while paying attention to particular excluded groups and includes a description of income earning activities of self- or wage-employed, distinguished by sector, size of firm, by geographical area (e.g. rural, urban), by sub-national unit (e.g. provincial, state and others), by type (e.g. formal or informal), and other relevant characteristics. With the findings from these two stages it is possible to get a picture of what activities specific groups are engaged in and to what extent these activities have the potential for growth or if migration to other sectors are possible – in the short and the long run.

(3) In step three, *finding the constraints to inclusive growth*, we use the organizational framework presented in Figures 1 and 2 to identify constraints from the perspective of different economic actors. Note that what has been presented in this paper is a framework. The quality of the inclusive growth analysis depends on the quality and variety of tools and data used to follow the framework.

In the case of Zambia we rely both on direct and indirect evidence to identify "bottlenecks" to inclusive growth. We use macro-data, as well as industry and firm-level data, firm and household surveys. As in Ianchovichina and Gooptu (2007) we rely extensively on cross country comparisons to benchmark Zambia's performance against other countries. We choose carefully the set of comparator countries, in many instances comparing Zambia to countries in Southern Africa and/or landlocked, resource-rich economies in the developing world. We also rely on findings in numerous papers on Zambia in the literature – most notably the study by Mattoo and Payton (2007) on services trade and growth in Zambia.

[22] In developing countries a significant part of growth is generated through reallocation of labor from low-productivity to high-productivity sectors.

[23] This does not mean we go back to the "laundry list" approach, but rather to a limited set of constraints. Sequencing of these constraints however may require further in-depth studies of the feasibility and costs of specific policies.

4   An Application to the Case of Zambia

After decades of declining standards of living, Zambia's economy started growing and per capita incomes started rising in the late 1990s (Figure 3). The recent positive and stable growth record has been accompanied by total factor productivity improvement (Figure 4), and presents a distinct break with the past of high growth volatility. However, despite robust and increasingly broad-based growth in recent years, aggregate poverty rates in Zambia have declined only slightly and remain high. According to the household survey in 2006, 64 percent of the people in Zambia are still poor (Figure 5). Poverty rates remain highest in rural areas (80 percent) where two-thirds of Zambia's population resides. Other measures of well-being paint a disturbing picture including increasing child malnutrition over the 1990s, high prevalence of HIV/AIDS, and the lowest life expectancy in the world in 2007.[24]

Figure 3: Zambia's GDP per capita and annual growth, 1962-2006
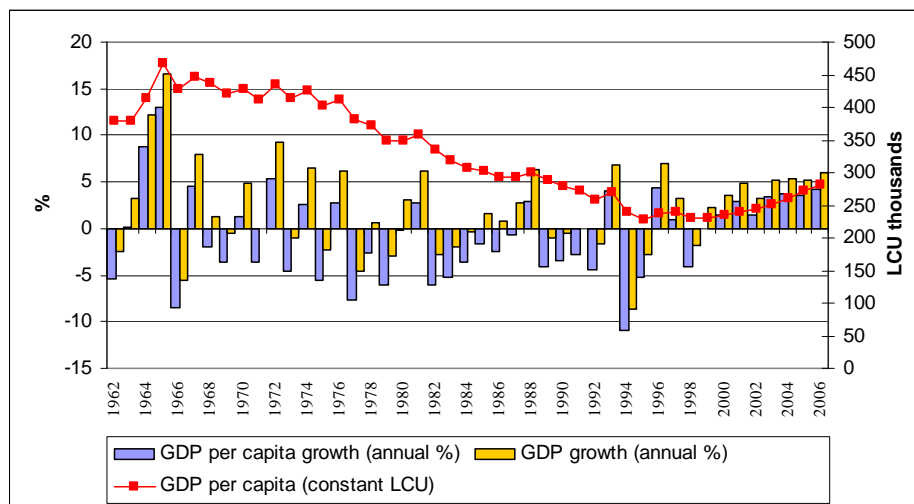
Source: World Bank (DDP data).

Can this high growth record be sustained and made more inclusive? We apply the framework discussed in the previous section to identify the key constraints to inclusive, sustained, and rapid growth in Zambia. An emphasis on increasing the opportunities for the poor to contribute and benefit from the growth process is critical given the fact that the majority of Zambian people are poor and/or vulnerable.

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[24] Zambia is a country which despite its mineral wealth and fertile soil is one of the poorest countries in the world. Its rank in the UN Human Development Index for 2007-08 is 165 out of 177 countries. Its per capita income is still much below the per capita income at independence in 1964 (Figure 3) and the poverty rate is as high as 64 percent. At independence the country's income level was 75 percent above the African average and four times that of East Asia (Bigsten and Tengstam, 2007). Today the per capita income is below that of the African average and a quarter of what it is in East Asia.

Figure 4: Growth accounting decomposition for Zambia
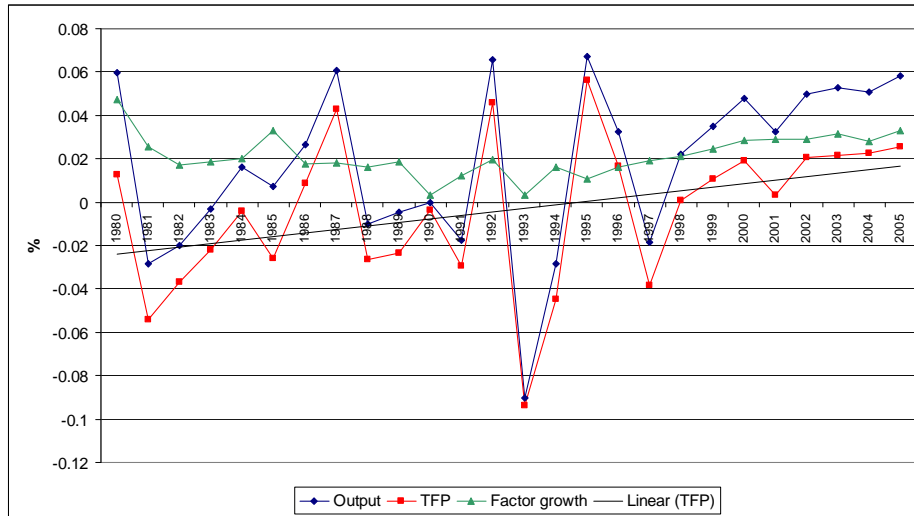
Source: Authors' calculations assuming CRTS (see specifics about the calculations in Appendix) using World Bank data and Barro and Lee (2000).

Figure 5: Poverty rates in rural and urban areas, 1991-2006
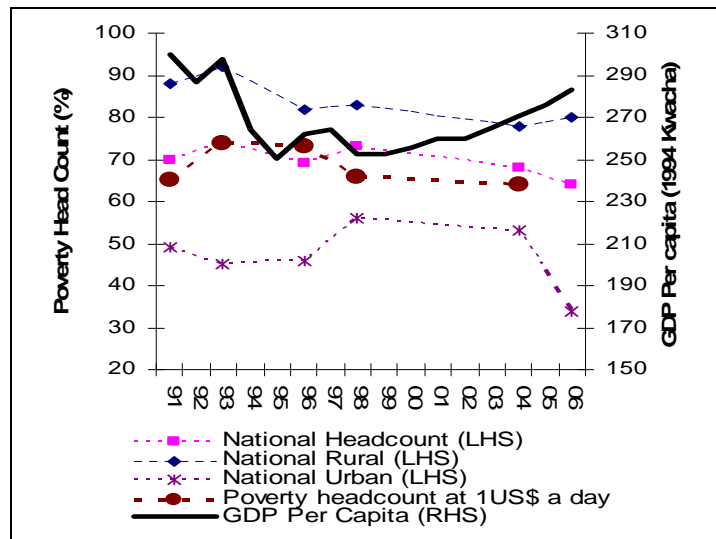
Source: Republic of Zambia (2006), CSO, WDI, and Bank staff estimates

4.1   Background

Before we start the analysis it is important to understand what was behind the change in productivity and growth that occurred around 1998 and the country-specific context of economic development in Zambia. The improved macroeconomic environment during the 1990s is often mentioned as a major factor behind the improvement in the business environment and has most probably had, with some time lag, a significant impact on growth.[25] Another important factor that is often assumed to have influenced the latest positive economic developments was the sharp

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[25] For example, inflation was over 180 percent in the early 1990s but has returned to single digits in recent years and the government budget deficit halved as a share of GDP between 2003 and 2006.

increase in the price of copper. This has certainly helped growth in Zambia but it is also important to note that the increase in copper production started before the sharp increase in the international price of copper in 2005.

Is the recent growth episode a one time event, or has Zambia embarked on a new, sustainable growth path? There are indications that recent growth is not only a sign of these external events, but an outcome of more fundamental changes in the economy that have led to new sources of growth. Zambia has managed to broaden its export base. In the period 1980-2004 the country nearly doubled the number of products exported (Figure 6) and halved its Herfindahl index,[26] breaking away from the group of least diversified economies in Sub-Saharan Africa. While in 1980 the five largest Zambian exports accounted for 96 percent of its exports, in 2004 they made up about 80 percent of exports (Figure 6).[27]

Zambia has diversified by capitalizing on its advantage in land-intensive primary goods. Mining products still dominate merchandise exports, but while in the three decades after independence Zambia relied exclusively on exports of ores and metals, in the last 17 years agricultural exports, including non-traditional farm exports, started playing a much more prominent role.[28] Zambia's share of food and other farm products in total exports increased from 4 percent in 1980s to 20 percent in the early 2000s. Even small scale farmers have diversified – by 2002/03 one out of five grew cotton, 45 percent derived income from animal products and 17 percent from horticulture.[29]

Figure 6: Degree of export diversification, Zambia
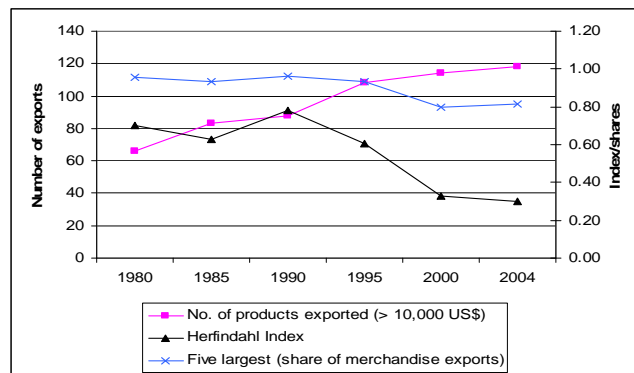
Source: World Bank, Export diversification data, PRMED.

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[26] The Herfindahl index measures the degree of export diversification. The higher the Herfindahl index, the lower the degree of diversification.

[27] Although the economy has grown rapidly and trade has expanded in absolute terms, it is declining in relative terms (see Figure 8).

[28] The total gross value of agricultural output has risen by over 50 percent between mid-90s and 2001-2004. Cotton and tobacco has contributed to export-led growth. Cassava, sweet potatoes, cotton and groundnuts production have increased.

[29] Also, the decline in the export share of mining hides important trends in the mining sector which has diversified away from copper into other base metals and precious stones. In 1995 other base metals were fifth on the list of Zambia's top 5 exports, and they accounted for less than 2 percent of total exports. By 2002 other base metals have moved to the second spot and represented 15 percent of Zambia's merchandise exports. Precious stones, which were not on the top 5 list in 1998, represented nearly 4 percent of total exports.

Figure 7: Changes in real growth rates (%)
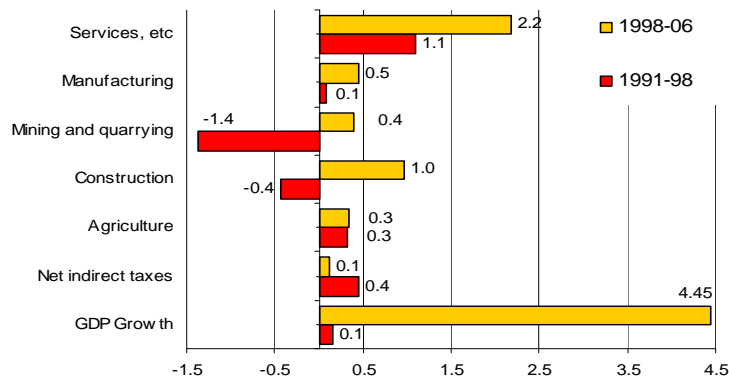
Source: World Bank (2007b)

In addition to mining, in the last ten years, growth was driven by strong expansions in services and construction, and to a lesser degree in manufacturing. The change in average growth rates from the period 1991-98 to 1998-06, was 4.4 percent in total of which 1.8 percentage point came from mining, 1.1 from services and 1.4 from construction, but only as little as 0.4 from manufacturing (Figure 7). Growth within services was mainly driven by growth in community and social services, real estate and business services, and wholesale and retail sales (Mattoo and Payton, 2007). These sectors are more often an "employer of last resort" unlike service sectors such as tourism, transport and communication, and finance and insurance, which tend to reflect broader economic dynamism. Understanding the constraints to growth in these latter service sectors and the manufacturing sector is an important step toward understanding how to sustain growth in Zambia in the long run.

However, although trade flows have increased in absolute terms since the early 2000s, in relative terms they are still much below historical data from earlier decades. Indeed, the data suggest that Zambia has not been able to scale up its export operations sufficiently to reverse the negative trend in relative shares (Figure 8).

Robust increases in foreign direct investment inflows accompanied the boom in the mining sector. In 2005 FDI inflows increased by 166 percent, compared to just 2 percent in 2004. Investment pledges increased the most in manufacturing and mining,[30] and decreased in agriculture, tourism and transport. Credit to the private sector increased significantly for almost all sectors indicating increased domestic private sector activity (Figure 9). The sectors with the strongest growth in private loans and advances were *agriculture*, *wholesale and retail trade*, *manufacturing* and *other sectors*. Loans to *other sectors* included personal loans (usually used for investment in a sector rather than consumption), loans to mining suppliers, law firms, audit firms, NGOs and development organizations, private hospitals, cleaning services, book publishers, and others.

Looking separately at trends in rural and urban poverty rates, one sees a sharp decline in urban poverty between 2004 and 2006, and a slight increase in rural poverty during the same period (Figure 5).[31] Understanding why urban poverty levels seem to have responded to the new

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[30] It has been estimated that US$1.4 billion were injected in the mining sector in the last 3 years.

[31] Poverty rates are highest among small and medium-sized farmers and non-farm rural residents. When asked directly how they perceive their welfare change during the preceding year, households involved in large-scale farming were most likely to have felt an improvement, followed by urban households in high cost residential areas. The larger the size of the farm, or the higher the cost level in urban areas, the stronger

economic opportunities but not rural poverty is crucial for understanding the constraints to inclusive growth.

Figure 8: Import and export shares, Zambia 1960-2007
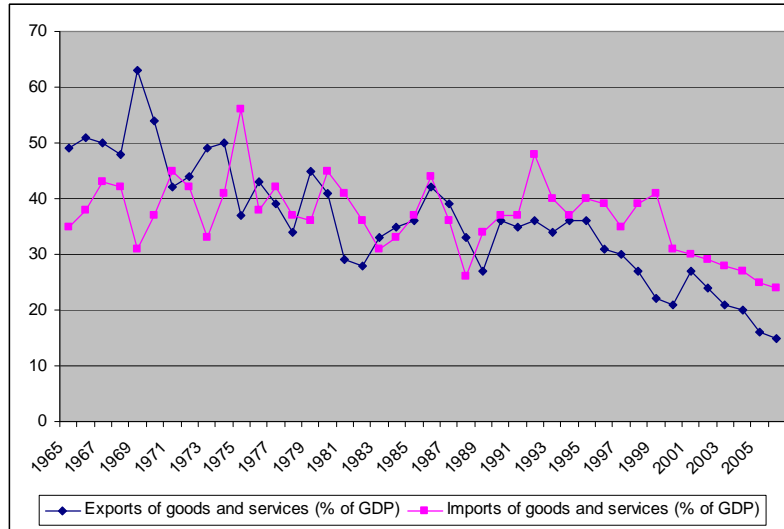
Source: Data from the World Bank (DDP)

Figure 9: Loans and advances to the private sector, Kwacha
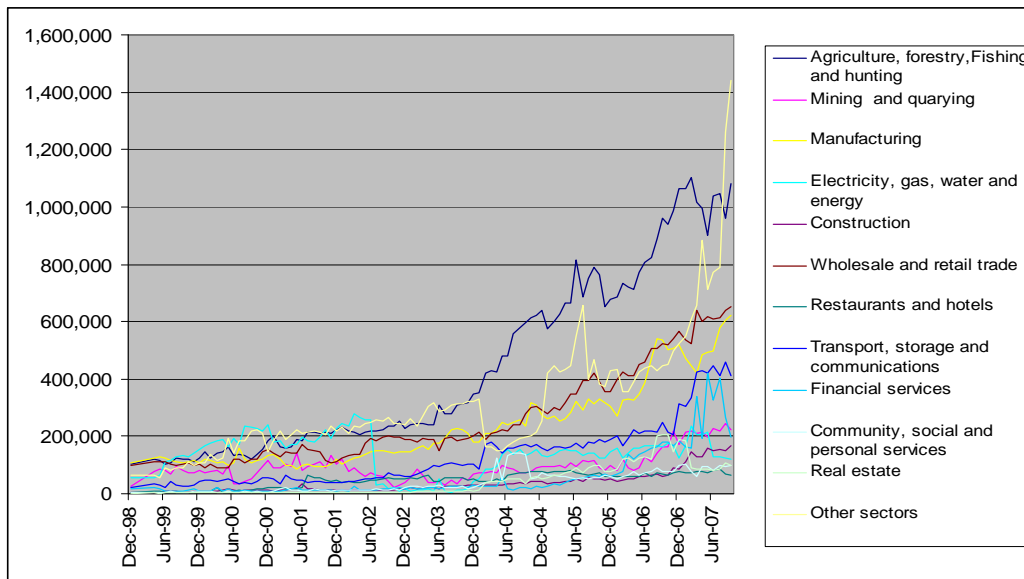
Source: Bank of Zambia

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was the perceived improvement in the household's living standards. Finally, across all categories, the share of households reporting improved welfare was larger than the share of those reporting deterioration. (CSO, *forthcoming*)

4.2 Economic profile of the poor

To understand why poverty rates in Zambia have remained high despite strong growth in the past decade we start by exploring the dynamics of different sectors and the extent to which the poor profit from the growing sectors or are dependent on stagnating sectors. We discuss the employment profile of the poor, and estimate labor productivity and job creation at the industry level.

A closer look at the sources of income of the rural, mostly self-employed, household heads, suggests that farmers only get 10 percent of their income from farm sales, and the majority of their farm output is for subsistence purposes (Table 1). Few rural households have sufficient resources to hire poorer neighbors or provide them with loans. Rich rural households tend to rely more on wage employment and less on subsistence farming than poor rural households, but there are no wide differences in rural households' wealth and education levels (Table 1). Rural inequality is very low and better-off households are also viewed as vulnerable.

Table 1: Mean shares of household income by source, income quintile, rural areas

	Quintile of National Distribution					
	All	Poorest 20%	2	3	4	Richest 20%
Food crop sales	6	7	6	6	6	5
Nonfood crop sales	2	1	2	3	2	2
Non-farm business	10	11	10	10	13	11
Livestock and other farm income	2	2	2	3	2	3
Salary	6	3	5	6	7	11
Remittances	6	7	6	6	7	5
Pension	0	0	0	0	0	0
Nonagricultural rent	0	0	0	0	0	0
Other income	11	13	12	12	11	9
Consumption of own production	55	57	55	54	55	52

Source: World Bank (2007a)

Table 2: Mean shares of household income by source, income quintile, urban areas

	Quintile of National Distribution					
	All	Poorest 20%	2	3	4	Richest 20%
Non-farm business	24	25	27	27	26	19
Salary	50	38	40	46	50	60
Remittances	6	8	6	5	6	5
Other income	15	20	19	16	14	13
Consumption of own production	5	9	7	7	4	3
	100	100	100	100	100	100

Source: World Bank (2007a)

In urban areas, the poor reside in informal settlements which according to estimates host 50-80 percent of the urban population. The urban poor are typically self-employed, but they may also be unemployed or underemployed.[32] The self-employed in urban centers are part of the large urban informal sector which in Zambia provided livelihood to 56 percent of the urban workers in 2002-03. They are employed in a variety of informal economic activities ranging from producing

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[32] Among individuals age 20 and over, 18 percent of those in the bottom quintile were unemployed according to CSO (2002/03).

and selling building materials, to trading petty commodities, farming, and renting real estate. While the urban poor derive a much larger share of income from wages compared to the rural poor (Table 2), the urban poor rely much less on income from wages and have much fewer years of schooling than the urban rich (Table 6). The urban poor are typically involved in several different activities, including the cultivation of undeveloped urban or peri-urban land to supplement their incomes and food intake.

In the last few years urban poverty declined, whereas rural poverty slightly increased. These trends are a result of an expansion in industrial and service activities, which have been drivers of growth in Zambia (Table 4), represented 86 percent of GDP in 2006 (Table 3), and took place mostly in urban centers. Also, labor productivity in industry and services are much higher than in agriculture (Figure 10). The huge gap between farm and non-farm labor productivity implies that Zambia, which has 70 percent of its labor force employed in agriculture, has the potential to use its labor force much more efficiently if constraints to growth are removed.

Table 3: Shares in total value added in Zambia (percent)

	2000	2001	2002	2003	2004	2005	2006	*Average*
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	*100.0*
Agriculture	**18.3**	**17.1**	**16.1**	**15.9**	**15.7**	**15.2**	**14.6**	*16.1*
Industry	**23.3**	**24.2**	**25.9**	**26.8**	**28.3**	**28.9**	**29.5**	*26.7*
- Construction	5.3	5.6	6.3	7.3	8.2	9.3	10.0	*7.4*
- Mining	6.8	7.5	8.3	8.1	8.7	8.5	8.5	*8.1*
- Manufacturing	11.2	11.1	11.3	11.5	11.3	11.1	11.0	*11.2*
Services	**58.4**	**58.7**	**58.0**	**57.2**	**56.1**	**55.9**	**55.9**	*57.2*
- Banking	8.7	8.4	8.3	8.1	7.9	7.7	7.5	*8.1*
- Utilities	3.1	3.3	3.0	2.9	2.7	2.7	2.8	*2.9*
- Other services	2.1	2.4	2.5	2.5	2.5	2.6	2.9	*2.5*
- Real estate	10.1	10.0	10.0	9.9	9.7	9.5	9.2	*9.8*
- Public administration	8.2	8.3	8.1	7.8	7.4	7.2	7.4	*7.8*
- Transport	6.7	6.6	6.4	6.4	6.4	6.6	7.5	*6.7*
- Trade	19.4	19.6	19.7	19.8	19.6	19.6	18.7	*19.5*

Source: World Bank, DDP.

Table 4: Industries' contribution to real growth in Zambia (percent)

	2001	2002	2003	2004	2005	2006	*Average*
Total	4.5	4.5	5.8	6.1	5.8	6.7	*5.6*
Agriculture	**-0.5**	**-0.3**	**0.8**	**0.7**	**0.4**	**0.3**	*0.3*
Industry	**2.0**	**2.8**	**2.5**	**3.2**	**2.3**	**2.6**	*2.6*
- Construction	0.6	1.0	1.4	1.5	1.6	1.3	*1.2*
- Mining	1.0	1.2	0.3	1.1	0.2	0.6	*0.7*
- Manufacturing	0.5	0.6	0.9	0.5	0.4	0.6	*0.6*
Services	**3.0**	**1.9**	**2.5**	**2.2**	**3.1**	**3.8**	*2.8*
- Banking	0.0	0.3	0.3	0.3	0.3	0.3	*0.2*
- Utilities	0.4	-0.2	0.0	0.0	0.1	0.3	*0.1*
- Other services	0.5	0.1	0.2	0.2	0.3	0.4	*0.3*
- Real estate	0.4	0.4	0.4	0.4	0.4	0.3	*0.4*
- Public administr.	0.5	0.1	0.1	0.0	0.3	0.6	*0.3*
- Transport	0.2	0.1	0.3	0.4	0.5	1.4	*0.5*
- Trade	1.0	1.0	1.2	1.0	1.2	0.4	*1.0*

Source: Authors' calculations based on data from World Bank, DDP.

Figure 10: Real value added per worker in Zambia
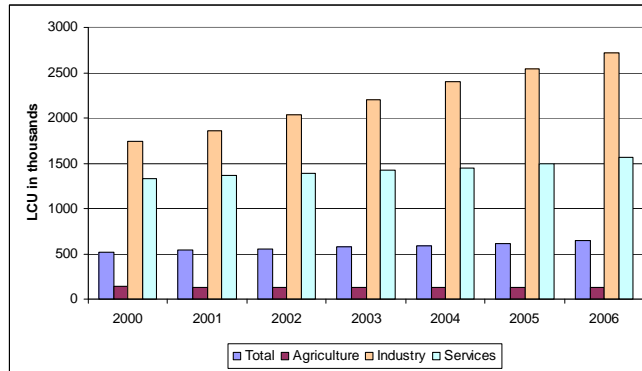
Source: Authors' estimates based on data from Government of Zambia and World Bank.

The growing sectors created few job during the dynamic period 1998-2006 (Figure 11). A possible positive development is the decline in the number of jobs in the segment where the poorest are concentrated, i.e. small scale agriculture accompanied by an increase in the number of jobs in urban low cost and medium cost areas. However, in the period 2004-06 there has been a decline in the number of urban jobs in medium and high cost areas, and the number of jobs in large-scale agricultural firms remained negligible.

Figure 11: Number of people employed by stratum, 1996-2006.
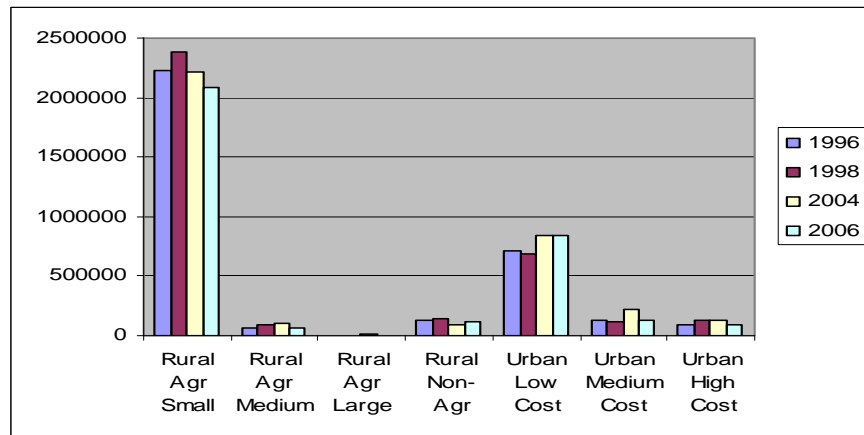
Source: CSO (forthcoming)
Note: Small, Medium and Large in the rural area refer to the scale of the farm, and Low, Medium and High costs in the urban area refer to the cost of the residential area.

These trends suggest that in the past decade the path out of poverty was through migration to urban low cost and medium cost areas where the number of jobs increased and productivity was higher than in the rural economy. Would this be the path of out poverty in the future? What would it take to increase the speed of non-farm employment creation? What would it take to raise labor productivity?

Figure 12: Number of people employed by sector in the rural and urban areas (2004)
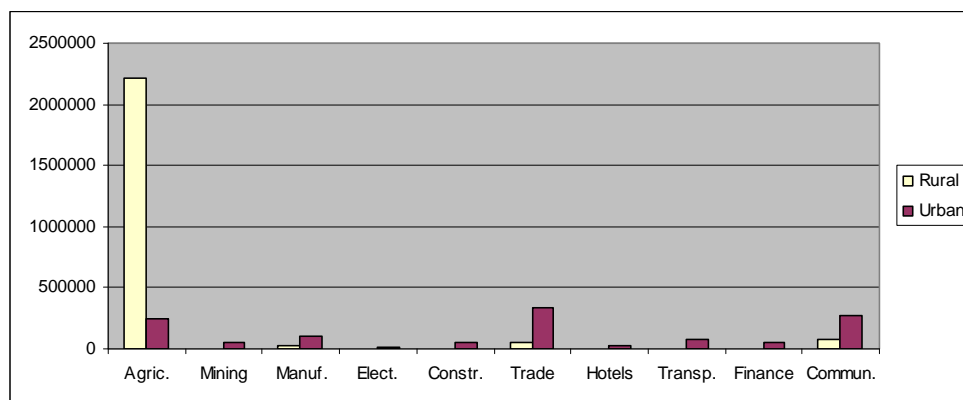
Source: CSO (forthcoming)

The distribution of employment by industry (Figure 12) implies that even a sizable percentage increase in employment in the urban industries will result in relatively few urban jobs in the near term. Furthermore, the capital intensive nature of mining implies that increases in investment inflows to this sector will not generate the number of jobs required to lift a significant share of people from poverty, and may have adverse effects on competitiveness through real exchange rate appreciation effects. This suggests that Zambia needs to focus on lifting constraints to productivity and employment creation in sectors other than mining that will be the source of income for the majority of Zambians.

Table 5: Structure of the farming sector

	Small scale	Emergent	Medium scale	Large scale
No of farmers	459,000	119,200	25,230	>40
Hectares per holding	0.5-0.9	10-20	20-60	>60
Crops grown	Food crops	Food/cash crops	Food/cash crops	Cash crops
Production focus	Subsistence	Commercial/ Subsistence	Commercial/Subsistence	Commercial

Source: Republic of Zambia (2000)

Agriculture is a sector that merits special attention as most people in Zambia, and especially the poor, are employed and derive their income from farming. But does this sector have a potential for productivity improvements in the future? Can it be a potential path out of poverty? This sector has a dual structure representing on one hand a small number of export-oriented commercial farmers that boast productivity levels similar to developed countries, and on the other hand, a large number of small-scale, subsistence farms that have productivity levels typical of Sub-Saharan Africa. There are also hybrid operations by medium-sized and emergent farms that produce for both commercial and subsistence purposes (Table 5).

Opportunities for farm job creation in commercial agriculture exist in Zambia. A World Bank (2007c) study projects the employment and income implications of commercial agriculture expansion and estimates that expanding irrigated commercial agriculture have the potential to generate, for example, 2 full time jobs per hectare in coffee production, 0.5 in wheat/soya, 1 in fodder crops, 2 in local horticulture and as many as 25 in floriculture. Depending on the types of benefits the expected wage would be around $3.6-4.5 a day,[33] which is much higher than the

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[33] These jobs would pay ZMK 11,000 a day, plus benefits, holidays and sometimes access to health clinics and schools. Commercially-oriented medium and small firms pay about ZMK 5,000-6,000 a day.

average return a day of $1.2 for a small-scale cotton farmer, $0.3 for a small-scale maize farmer without fertilizer subsidies, and $1.3 for small scale commercial maize farmers with 50% fertilizer subsidies. The wage differential reflects productivity differentials,[34] and the potential to fill this gap and increase average agriculture labor productivity will be covered in the subsequent analysis.

Another dimension that is crucial to this analysis is economic geography. There are limited financial resources and capacity to make public investments and the ones that get done need to be targeted to areas where the net benefit to inclusive economic growth will be largest. Zambia's population distribution is highly uneven with 65 percent living in areas with less than 150 persons per square kilometer. Adding a poverty perspective to this makes the trade-off in public investments even more difficult. The poverty maps on Figure 13 show the inverse relationship between the poverty headcount and the poverty density and help us distinguish three groups of poor: (i) urban poor; (ii) rural poor in serviceable areas, and (iii) rural poor in remote areas. This study focuses on the first two groups, while policies to increase mobility combined with some kind of social safety nets or subsidies (not analyzed in this study) need to be considered in remote areas.

Figure 13: Poverty maps, Zambia
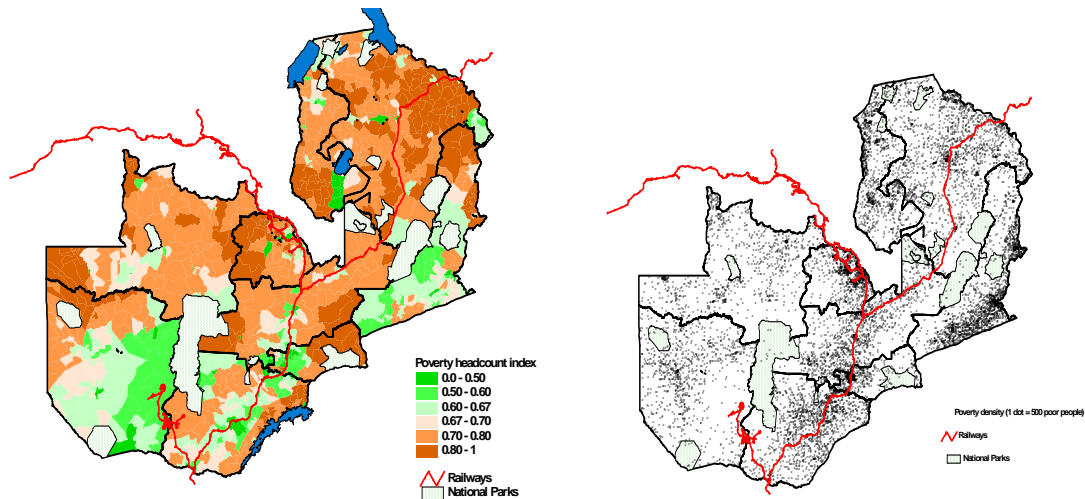
Source: Simler (2007)

In summary, the main reasons for low income growth of the poor in Zambia appear to be low returns to self-employment – not least in agriculture – and limited growth of and/or access to wage employment. We next turn to the factors limiting returns to labor and job creation in Zambia.

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[34] For example, the average yield of Zambian smallholder cotton growers is 0.8 tons per hectare and needs to expand with at least 2 tons per hectare to reach the same returns as wage workers in commercial cotton farms.

4.3 Identifying the constraints to inclusive growth

4.3.1 Is poor employability the main constraint to productive employment?

Education and health determine the qualitative supply of labor and the prospects of the poor to seize opportunities in the business environment in the longer term. We examine the question whether the supply of labor is a constraint to investment of firms in the business environment analysis under social returns.

Zambia has high primary school enrollment rates and literacy rates above the average for SSA and LICs, but gross secondary school enrollment rates for the period 2002-04 were lower than the average for SSA and much lower than the average for LICs.[35] There is no major difference between the rural and urban areas in access to primary schools but in secondary school access the difference is apparent (Figure 14).

While worker skills are not perceived as a major obstacle to private sector growth in Zambia, for the poor, education beyond the primary level is a major constraint to successful self-employment[36] and employment in the formal sector. While there is no major difference in mean years of education between the rich and the poor household heads in the rural areas (Table 6), school attendance in urban centers is differentiated by consumption/income levels. In 2002/03 the household heads in the richest deciles had nearly twice the mean years of schooling than those of the household heads in the poorest deciles (Table 6).[37] At all ages, children from households in the top quintiles are more likely to be in school than those in the poorest quintile. Because the poor typically start school later, the greatest difference is at young ages. Fees are still charged for education after grade seven and there are fewer slots in middle and high school. Finally, despite improvements in school infrastructure, and the introduction in 2002 of free education up to seventh grade, the quality of education remains poor and there is a dire lack of capacity to meet needs.

Table 6: Mean years of schooling of household head in 2002/03

	All	Poorest 20%	Richest 20%
Rural	5.3	4.4	6.2
Urban	9.3	6.6	11.1

Source: World Bank (2007a)

Figure 14: Percentage of households with access to education facilities within five kilometers.
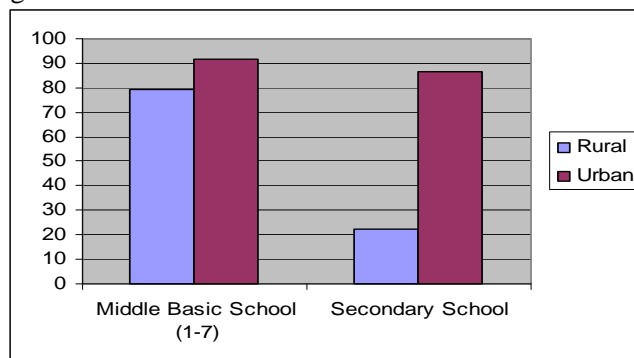
Source: CSO (forthcoming).

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[35] In 2004, only 24 percent of Zambians attended secondary school and only 18 percent completed the full 12 years of schooling.

[36] Firm studies indicate that education of firm proprietor is most important for growth of small indigenous firms.

[37] Tertiary education, which is essential for jobs in large companies and the public sector, reaches just a little over 2 percent of the population.

Health is another important dimension of employability and its poor status in Zambia is a constraint to productive employment for many poor. Estimates of the costs related to HIV/AIDS in Zambia are almost 1 percent in GDP growth per year according to Zambia CEM (World Bank, 2004b). The high prevalence of HIV/AIDS affects income growth negatively because it undermines the stock of available labor, its productivity and limits incentives for investments for future consumption (physical as well as human capital investments). The HIV/AIDS epidemic is more devastating in Zambia than in many other SSA countries. In 2005 HIV infection rates in the working-age population stood at 17 percent in Zambia compared to the SSA average of 6 percent. The infection rate was much higher in urban areas where it affected 22 percent of the working-age population, but HIV/AIDS undermined the capacity to supply labor in rural areas as well.

Although access to health facilities has improved since 1998, it is still a problem limiting access to 12 percent of the rural household that reported to be more than 15 kilometers away from a health facility. Because of poor health care provision, many of the infected individuals without access to healthcare and medications are unable to continue working productively, if at all. The 2002-03 LCMS examined reasons for urban-rural migration, and found that most migration was in fact not in response to economic stress, instead many of them were people with HIV/AIDS who returned to their villages during their final months of life. Shortage of labor is mentioned by many as a problem dividing the self-sufficient and the food deficient and households with high dependency ratio, i.e. low labor supply per household member, are much more likely to be poor.

Poor quality and low levels of secondary and higher education and high prevalence of HIV/AIDS undermine the ability of the poor in Zambia to seize economic opportunities. The conclusion comes from our focus on the poor as individuals rather than a representative firm. Next we turn to the business environment analysis from the perspectives of different types of firms. We start with an evaluation of the cost of capital as a potential binding constraint to inclusive growth.

4.3.2 Is the high cost of capital an obstacle to income growth?

According to Zambia's Investment Climate Assessment (ICA) report (World Bank, 2004a),[38] in 2003, the high cost of capital was perceived as the top-most constraint to business operations of Zambian firms.[39] More than 80 percent of firms in Zambia thought that the cost of financing is the most binding constraint to their operation compared to 60 percent in Uganda, and 73 percent in Kenya. Lack of capital to expand or start a business was perceived as the main reason for their poverty status by 30 percent of rural residents and 42 percent of urban residents in 2002/03 (World Bank, 2007a).

Recent data however suggest a more nuanced picture. Investment activity in Zambia is at par with the SSA averages and the level of investment as a share of GDP is higher in Zambia than in SSA (Table 7). In 2006, access to agricultural inputs and low wages, not high cost of capital, were cited by the largest share of poor people as reasons for poverty in rural and urban areas, respectively (Figure 15). Lack of capital/credit to extend or start a business was perceived as the main reason for poverty by 14 percent in rural areas and 19 percent in urban areas. While risk premiums on lending to firms have been high by international standards (Figure 16), they are now

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[38] It is important to keep in mind that Zambia's 2007 Investment Climate Survey data were collected in 2003 and many aspects of the business environment have changed since then. Moreover, over 70 percent of the work force is employed in the informal sector, and the ICA survey covers only formal companies. The large size of the informal sector indicates serious problems with the investment climate.

[39] The high cost of capital and the limited access to finance were perceived as a major or severe obstacle to growth by 82 percent and 54 percent of business owners, respectively. The average interest rate spread was 17 percent in 2005 which was substantially higher than the one in OECD (3 percent) and SSA (11 percent). Domestic credit to the private sector was on average only 7 percent of GDP in the period from 1999 to 2005, compared to 176 percent in OECD and 62 percent in SSA.

approaching averages in other African countries and LICs. On average the real cost of capital in Zambia has been below that of Uganda and other large, booming, copper exporting countries such as Mongolia, and very close to the real cost of capital in South Africa. If any, it is poor access to and high cost of capital on loans to small, domestic companies that has constrained the growth of the private sector.

According to Zambia's ICA (World Bank, 2004a), in 2003, nearly 50 percent of larger firms (over 100 employees) had a loan, while only 19 percent of small firms (10-49 employees) had a loan. The cost of these loans to small firms was also more than 10 percentage points higher than those to large firms. Similar differentials existed between the cost of capital of exporters and non-exporters, as well as domestic and foreign companies. Informal firms, not represented in the survey, typically face even steeper constraints when it comes to cost and access to capital. These firms have to finance their operations largely from own funds. Poor access to capital for small formal firms gives informal companies little incentives to become formal.

The reason for the poor access to and high cost of finance for small and micro firms appears to be poor financial intermediation rather than low domestic savings or bad international finance. Gross domestic saving as a share of GDP climbed up from just 6 percent in the 1990s to 16.5 percent in 2000s (Table 7). In 2006 Zambia's domestic saving as a share of GDP surpassed the corresponding average for SSA. Foreign direct investment and aid were higher than the averages for SSA and LICs both in the 1990s and 2000s.

Financial intermediation is limited both by the small size of the banking sector, its volatility, and an inadequate supporting financial infrastructure (e.g. public registries). At less than 5 percent, the percentage of people with a bank account is much lower than that in other African countries, suggesting that the depth of Zambia's financial sector is very low. Furthermore, according FinScope data in 2005 two thirds of Zambians were not served by formal or informal financial institutions and only 5 percent of adults and 8 percent of business owners used microfinance (FinTrust, 2007).

Figure 15: Examples of self-assessed reasons for poverty (percent)
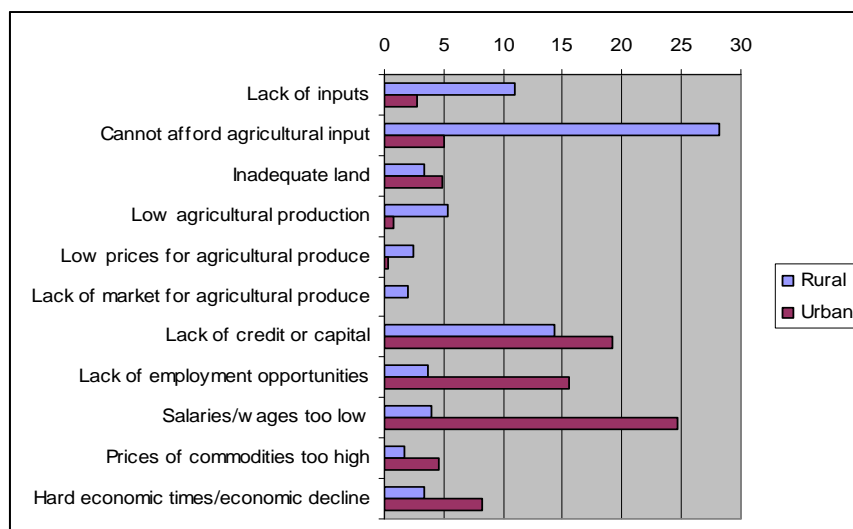
Source: Summary from CSO (forthcoming)

Figure 16: Interest rate spreads (lending minus deposit rate)
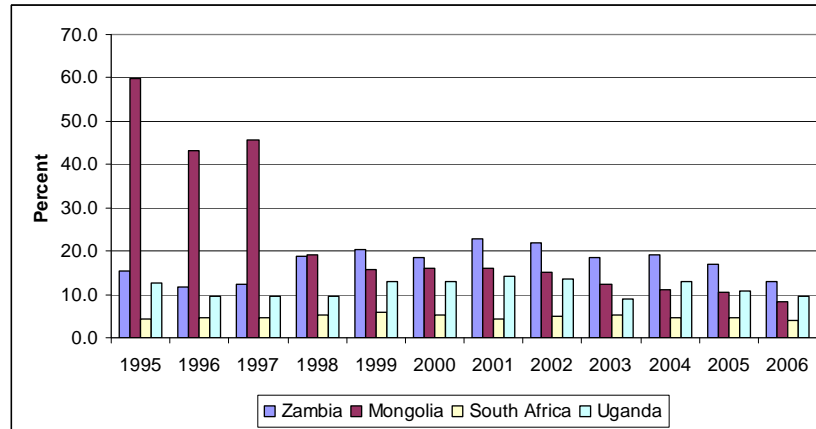
Source: Authors' own calculations using World Bank data.

Another problem is lack of public registries or private bureaus with information on borrowers' creditworthiness. Despite a good legal framework that protects the rights of borrowers and lenders, in practice Zambia's recovery rate on bank loans is just 22 cents – higher than in LICs, but significantly lower than the rate in South Africa and HICs.

The problem of poor financial intermediation is especially severe in rural areas. Before liberalization there were government-run institutions providing agricultural credits, but in 1997 this ended and was combined with a period of prohibitively high interest rates. Informal borrowing is normally not an option as the rate can go up to several hundred percent annually.

However, there is evidence that financial intermediation has improved lately. The number of commercial bank branches has grown rapidly in the period 2006-07. Some microfinance institutions operated by NGOs and outgrower schemes (mainly in cotton, paprika and tobacco) have been successful in providing credit to farmers, but the micro finance and outgrower credit channel remains limited.

A question that needs to be posed before making a conclusion about the cost of or access to capital as a binding constraint to growth is why people did not use financial services. Among the top reasons for not having bank accounts were low and irregular income receipts, rather than physical access to financial institutions or high fixed costs, according to FinTrust (2007).[40] This indicates that constraints to income growth rather than access to saving institutions are crucial for inclusive growth at present. A similar picture emerges when one looks at the reasons for not having micro credit.

According to FinTrust (2007) only 1 percent of business owners had micro credit loans in 2005. Of the ones without micro credit only 17 percent said they had access to credit but did not need it because they had own funds. The majority of business owners with no access to micro credit could not afford it (63 percent) or were too poor (23 percent). However, a significant share of business owners was unaware of micro-credit opportunities (32 percent).

In summary, access to credit may still be a constraint for some groups of poor but it is difficult to conclude whether it is a binding constraint for inclusive growth. Signs of improvement can be found in both "objective" and perception data, indicating that the financial infrastructure seems to respond to new economic opportunities. Positive effects of access to credit are mainly seen when credits are combined with access to other types of inputs, and output markets, such as in outgrower schemes. This suggests the importance of coordination when supplying producers

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[40] Source: FinScope data from 2005.

with key services. We continue with an evaluation of social returns as a potential reason for low returns to investment, which in turn limit inclusive growth.

Figure 17: Real cost of capital (averages)
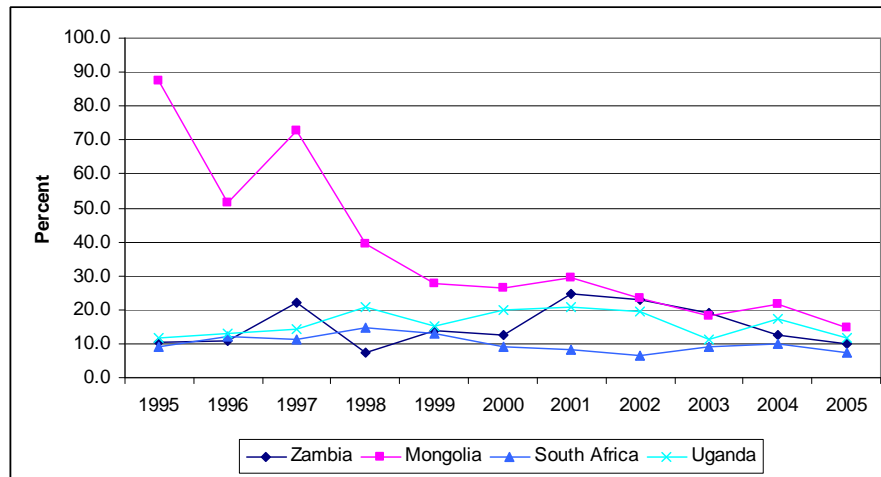
Source: World Bank (DDP data).

Table 7: Investment and saving indicators

	1991-1999	2000-2005	Latest year*	
Gross capital formation (% of GDP)				
Zambia	13.7	23.8	25.8	(2006)
Sub-Saharan Africa	17.8	18.9	19.2	(2006)
Low income countries	21.4	25.0	28.8	(2005)
OECD	21.3	20.5	20.3	(2004)
Gross capital formation (annual % growth)				
Zambia	11.1	7.9	13.1	(2006)
Sub-Saharan Africa	3.1	7.1	13.0	(2006)
Low income countries	5.6	8.4	15.9	(2005)
OECD	2.1	2.6	5.0	(2004)
Aid (% of gross capital formation)				
Zambia	193.4	72.8	50.3	(2005)
Sub-Saharan Africa	30.0	25.6	26.7	(2005)
Low income countries	16.2	10.5	9.9	(2005)
OECD	na	na	na	
FDI, net inflows (% of GDP)				
Zambia	4.0	3.3	3.6	(2005)
Sub-Saharan Africa	1.5	3.0	2.7	(2005)
Low income countries	1.1	1.4	1.5	(2005)
OECD	1.3	2.4	1.9	(2005)
Gross domestic savings (% of GDP)				
Zambia	6.0	16.5	18.1	(2006)
Sub-Saharan Africa	16.2	18.0	16.2	(2006)
Low income countries	18.6	22.5	25.1	(2005)
OECD	21.6	19.8	19.4	(2004)

Source: World Bank, DDP.
*Note: Latest year shown in parenthesis.

4.3.3 *Do low social returns imply low income growth?*

4.3.3.1 **Natural endowments**

Relative to other Southern African countries, Zambia is well endowed with natural resources, including arable land, favorable climate and pattern of rainfall over large sections of the country, ample water, forestry and mining resources (World Bank 2003). These endowments offer opportunities for income growth from a diverse set of economic activities including mining, agriculture, forestry, fisheries, tourism and hydro energy, but also food processing, and manufacturing related to Zambia's endowments of mining, forestry and others.

Mining is Zambia's main source of export revenues, and in the face of rising demand for natural resources from emerging Asia and elsewhere, will continue to be a key source of growth of export revenue. Dominated by copper, mining in recent years has diversified into other metals and minerals. Possibilities remain open for Zambia to capitalize on its deposits of nickel, zinc, lead, coal, emeralds, gold, silver and uranium.

Another, natural resource that remains largely untapped is land. Only 10 percent of total land and 40 percent of arable land is currently cultivated. However, as shown in (Figure10), average returns to agriculture have remained low despite possibilities for output expansion through both land expansion and intensification of non-commercial farming.

Low productivity in rural areas is partly a result of many years of development neglect, when Zambia's agriculture was mainly seen as a source of cheap foods sold in urban area.[41] During the 1990s major reforms were carried out within Zambia's agriculture sector, including market determined prices, reduction of producer subsidies, and other measures. The nature of these reforms implied that mostly large scale firms and firms with market access benefited, while many small-scale farmers struggled to access markets, inputs and information. The government however continued to intervene in agricultural markets after the 1990s. These interventions created misallocation of resources (Jayne *et al*. 2007) and raised indirect costs. The indirect costs to agriculture, which include direct taxes and indirect costs through macroeconomic and other distortions, have diminished substantially in most countries, except in Zambia (Figure 18). These costs created by the economic structure of Zambia are high compared to other African countries, and have even increased since the beginning of the 1980s.

The abundance of fertile land and the possibility to remove these efficiency limiting distortions, implies that there is a potential to expand farm output in Zambia. According to a World Bank study (2007c), Zambia's commercial agricultural expansion will be mainly along the extensive margins as their yields are already comparable to those in developed countries. For medium and small scale farms however there will be opportunities to increase output both at the intensive and extensive margins.

Zambia has also untapped social returns in hydro power and tourism. Based on statistical analysis, Mattoo and Payton (2007) find that tourist flows are much lower than expected, given Zambia's natural endowments. The main reasons for the lower than expected tourist flows are the condition of road infrastructure and the cost of doing business as an indirect measure of the level of "tourism establishment" serving and accommodating tourists. Their estimates suggest that if the road infrastructure and the business climate were as in South Africa Zambia's tourist flows would be 51 percent higher than existing levels.

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[41] Revenues from the copper mines were formerly used to finance government interventions in agricultural markets. These included guaranteed prices for maize and subsidized inputs and credits. The incomes of the rural households were further ensured by remittances from workers in, at that time, public employment in the mines. Hence, the agricultural sector was mainly encouraged through public and private transfers and there were few incentives to diversify due to the lack of investment in general productivity enhancing infrastructure.

Figure 18: Indirect cost to agriculture
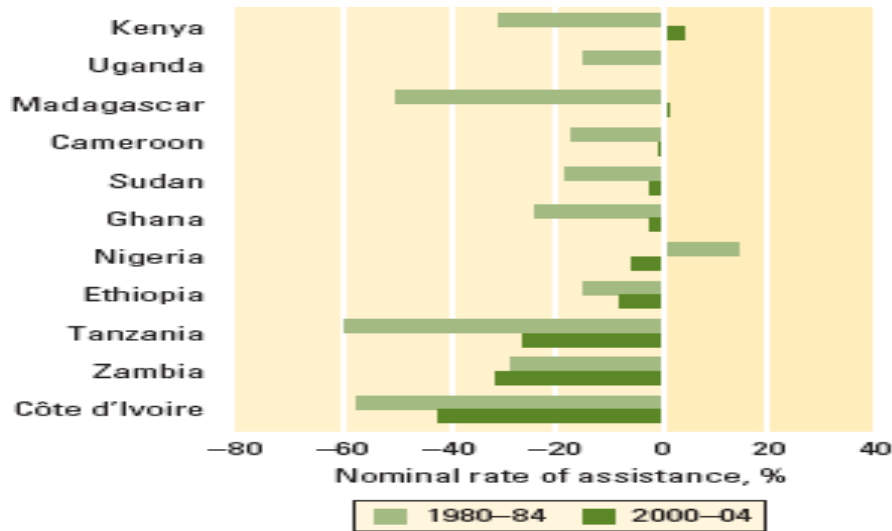
Note: The nominal rate of assistance, the "net taxation", takes into account distortions on both the output and input side. It adjusts for direct output subsidies, the difference in output price at the farm gate and at the border, input subsidies, differences between the domestic and the international prices of inputs, distortions in the market for foreign currency, and others.

4.3.3.2 Geography

Zambia is a landlocked country which makes it potentially harder to reach export markets and realize economies of scale, as well as access cheap imports.[42] On the other hand, being landlocked may also serve as an import tax protecting domestic import-competing firms.

     One concern posed by Zambia's landlocked position is its ability to export bulky low-value products (e.g. some agricultural products). The extra cost of getting such products to the coast needs to be compensated by more efficient production compared to coastal countries. Indeed, increasingly more of Zambia's agricultural products are exported by air – a shift that required a focus on high value and low weight and volume products, but also improved access to air transport. However, Zambia's access to air transport is still well below the access level expected given its GDP per capita level (Figure 19). There is evidence that as some firms have suspended horticultural exports to Europe, the frequency of flights has decreased raising air-freight costs for remaining firms.

     When it comes to regional trade, Zambia's landlocked position has proved to be an advantage as Zambia borders eight other countries and is the beginning, destination or transit country for five of the 18 major transit corridors in Sub-Saharan Africa. Regional and international transit infrastructure costs are relatively low in Zambia. All five transit routes have unit road transport costs that are below the regional average. Low transport costs on the main transit corridors have facilitated regional trade and shifted Zambia's exports to SADC and COMESA countries and away from the EU and the United States (World Bank, 2007b). Still

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[42] The average GDP per capita in landlocked SSA countries was about half of the GDP per capita for the coastal SSA countries in 1999-2005, and Zambia's GDP per capita was only 60 percent of the average of the landlocked countries during the same period. However, in terms of GDP per capita growth during the same period, the order was reversed implying that Zambia is catching up with other landlocked countries.

Zambian exporters face significantly higher obstacles to trade than exporters in other countries in terms of time to import and export goods.[43]

Figure 19: Access to air transport
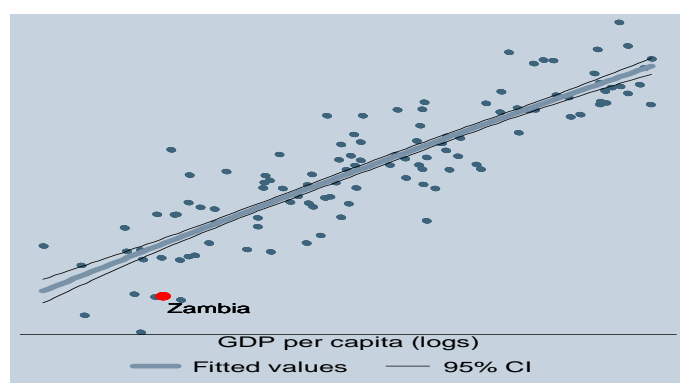
Source: Mattoo and Payton (2007)

4.3.3.3 Infrastructure

Zambia's status as a landlocked country cannot be viewed as a major problem, but high domestic transport costs are a constraint to growth. The domestic transport cost for one ton per one kilometer was US$0.07 in Zambia, which was higher than in countries like South Africa (US$0.02), Malawi (US$0.07) and Ethiopia (US$0.04-0.06) (World Bank, 2007b). The high price of transport seems to derive from poor domestic road infrastructure outside of the main transit corridors, high fuel costs (Table 8) due to high taxes on diesel, and high cost of tires.[44]

Table 8: Comparative prices of diesel fuel (US$/liter)

Zambia		RSA	Tanzania	Kenya	Zimbabwe
Pre-budget	Post-budget Reduction in Excise Tax				
0.86	0.73	0.32	0.65	0.59	0.55

Source: World Bank (2003)

Poor quality and unevenly distributed domestic road network is a constraint to growth of rural economic activities, including commercial agriculture, new mining activities, tourism, among others. The domestic road quality has improved in recent years and the percentage of roads that are paved is higher in Zambia than the average for SSA. However, only a few districts in the Lusaka province have roads with fairly good quality. The railroad has not been an alternative so far but a recent privatization of Zambia Railways may change that in the future.

Poor market access is a constraint to the farmers' ability to sell their output and their ability to access inputs needed for an efficient production as large parts of Zambia's rural area are sparsely populated with long distances between villages and low road quality. World Bank (2007a) reports that in 2002/03 half of the rural households were more than 9 kilometers from the nearest food market, and over 25 kilometers from the nearest agricultural input markets for fertilizers and seeds. Poor market access has a negative effect on returns to farming. More remote households have less land under cultivation, lower returns per household member and lower returns to land. Alwang and Siegel (2003) show that net returns are roughly 10 percent lower for remote households.[45]

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[43] Source: Doing Business Indicators, World Bank.

[44] Diesel and tires contribute over 50 percent of the costs of transportation (World Bank 2003).

[45] Cotton production, a success of the post-reform period for smallholders, offers an example of the disadvantages faced by remote households. The possibility of taking on cotton outgrower schemes is only

Inadequate infrastructure and poor quality and expensive basic services are perceived as a major constraint by business owners. Connectivity services are crucial for economic integration within the domestic economy and with the rest of the world. A recent study of 42 developing countries, based on Investment Climate Surveys, found that Zambian firms have the second-highest share of "indirect" costs, most of which are attributable to services-related inputs used in production – energy, transport, telecom, water, insurance, marketing, travel, independent professionals and accounting (Figure 20). In Zambia the share of indirect costs is on average 22 percent of gross value added, which is twice the share of labor costs. The study found that the high level of indirect costs attributable to the high prices of services is likely to have undermined the competitiveness of Zambian firms in export markets and therefore slowed down job creation. A specific example of high-cost connectivity services is the mobile phone business which sells services at much higher cost in Zambia compared to other countries (Mattoo and Payton 2007).

Figure 20: Cost structure: firm-level averages by country
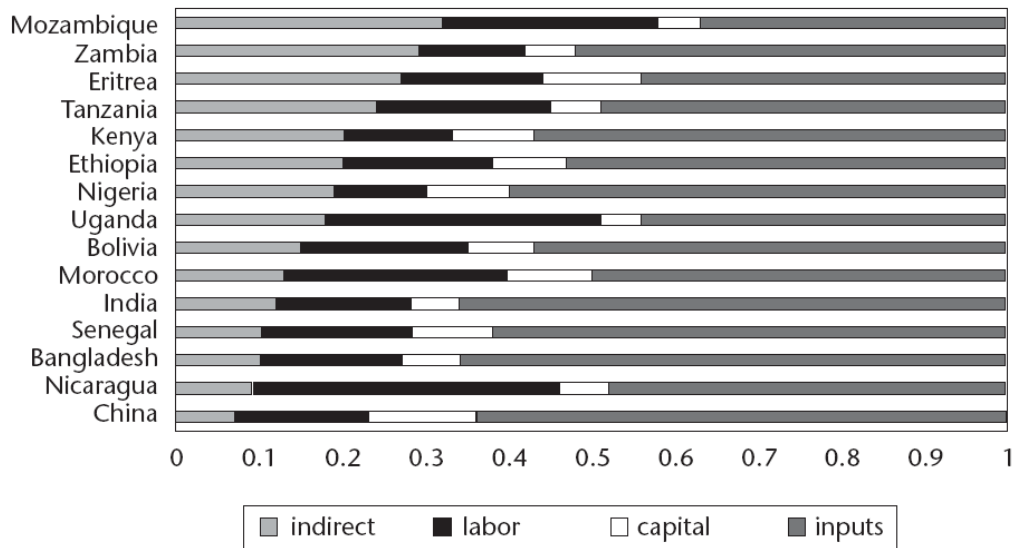
Source: Eifert, Gelb, and Ramachandran (2005)

While electricity costs are *not* high compared to countries within and outside the region, there are big variations in quality of and access to electricity supply in different parts of the country. In some areas there is no supply of electricity while firms around Ndola and Kabwe suffer frequent power outages. Only about 20 percent of the country's population has access to electricity. The problem is not limited supply of electricity. Zambia has installed capacity which is well in excess of current domestic demand and exports electricity within the region. The inconsistency between excess supply and poor access is due to the dominance of the mining industry in the energy sector. Such monopsony power has discouraged the expansion of electricity infrastructure to other productive sectors. Poor access to basic services is more acute for small firms which have to wait longer than large firms to gain access to electricity, water and phone connections (Figure 24).

Informal businesses are significantly more disadvantaged by the lack of affordable basic services as they lack resources to supply own water and generate own electricity. Much of the infrastructure in informal urban areas is outdated, poorly maintained and overcrowded. While

available to farmers who live in areas that are situated close to cotton ginners. Outgrower agents only operate in such areas because traveling over wider areas with low population density is not cost effective. As a result, cotton is not an option for smallholders in most parts of the country. Another example is the government fertilizer subsidy program that does not reach farmers in remote areas of the country.

access to markets and quality of housing are not constraints for urban residents, market infrastructure in informal settlements is inadequate.

It is also extremely expensive to build warehouses – an essential type of infrastructure in urban areas. The cost of obtaining the necessary licenses and permits for a warehouse construction is 1766 percent of per capita income compared to 1048 percent in SSA, 996 percent in LICs and 72 percent in developed countries.

An extension of the rural road network and other public utilities in rural and urban, informal settlement areas is a necessary complement to all other investments and reforms to foster inclusive growth in Zambia. However, these investments need to be managed carefully and positioned strategically to foster positive externalities for as many households and industries as possible.[46]

4.3.3.4   Human capital

Worker skills and education are ranked 10th in a list of 17 obstacles to business operations in Zambia's ICA conducted in 2003 (World Bank, 2004a). This suggests that, for an average firm, there is no mismatch between skills demanded by companies and skills workers provide. Moreover, a decline in employment in medium-cost and high-cost urban areas in recent years signals limited demand for formal employment (Figure 21). Therefore, in the near term supply of labor is unlikely to constrain formal job creation.

Figure 21: Skilled migration and human capital in Africa, 2000

Source: Mattoo and Payton (2007)

Another way to analyze excess demand or excess supply of labor is to look at international migration patterns. Brain drain can have a huge negative effect on growth in a country with limited human capital and limited education infrastructure and resources. Overall migration rates are generally lower in Africa relative to the rest of the world, and Zambia's rates are even low by African standards. Only 0.1 percent of those with primary school education migrated from Zambia in 2000, compared to regional averages of 0.3 percent in Southern Africa, 2.8 percent in Northern Africa and 0.5 percent in South-Central Asia. For those with secondary education the migration rate is 0.3 percent which is also very low compared to other developing countries. At the tertiary level the rate increases to 10 percent but it is low compared to other countries and low given its low level of tertiary educated.

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[46] See further the discussion on coordination failures in Section 3.5.

Hence, at the aggregate level there are few signs of major imbalances between demand and supply of skilled labor. However, this does not mean that there are no imbalances for specific skills, such as for managers, technical engineers, etc. Moreover, given the time lag of changes in the level, quality or focus of education and the actual supply of skills, there must be a strategy on how to meet potential skill constraints in the future.

We conclude that within social returns, infrastructure and basic services are binding constraints for growth as well as inclusive growth. The discussion on infrastructure as a constraint will be picked up also when discussing coordination failures in section 4.4. We now turn to private appropriability issues in search of government and market failures (Figure 2).

4.3.4 Are government failures a constraint to inclusive growth?

4.3.4.1 Is the macroeconomic environment a major constraint to inclusive growth?

In 2003 macroeconomic instability ranked second in the list of business constraints published in the ICA (World Bank, 2004a), with 74 percent of the firms naming it as a major or severe obstacle to business operations in Zambia. The macroeconomic situation has improved substantially since 2003. Inflation fell down to single digits in 2006, and despite rising energy prices the terms of trade improved in the period 2003-2007 due to rising commodity prices, especially prices of copper. The overall government budget deficit (including grants) fell as a share of GNP from 13.4% in 2003 to 7.6% in 2006.[47]

In the first half of 2008 the main macroeconomic concern in Zambia was the strong appreciation of the Kwacha. The real exchange rate has appreciated substantially since 2004.[48] After staying relatively flat between 1998 and 2004, it has appreciated by 25% in 2004-05 and by 31% in 2005-06.[49] Against this background, the kwacha's significant depreciation in the second half of 2008 represents a correction of the currency overvaluation that threatened expansion of Zambia's non-traditional exports. The quick reversal in the exchange rate path reflected the strengthening of the US dollar, falling copper prices,[50] a large withdrawal of portfolio investment as emerging-market risk aversion increased among global investors, and domestic political uncertainty. Prudent macroeconomic management will be needed in order to address the challenges presented by the significant deterioration of the global economic outlook in the face of the global financial crisis.

4.3.4.2 Is the tax code a binding constraint to inclusive growth?

Taxes, although on the high side, are not excessively high nor are they out of line compared to other countries (Figure 22).[51] The tax base however is narrow and large firms, particularly in the financial service industry, face much higher tax rates than small and medium sized companies. A

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[47] The share of government revenue in GDP has fallen slightly from 17.5% in 2005 to a projected 16.5% of GDP in 2006. These budgetary issues are partly due to the appreciation of the Kwacha, reducing the local currency value of customs duties and trade taxes, and also aid inflows.

[48] The path of the nominal exchange rate was fairly stable in the range 4400-4800 K/$ from 2002 to early 2005. Appreciation commenced in 2005 and there was a rapid rise in November 2005, taking the rate to 3600K/$. In May 2006 the rate fell below 3000K/$, and has since returned to around 3400K/$.

[49] Several factors have contributed to the appreciation. These include debt relief, scaling up of aid, foreign direct investment flows into mining, strong export performance and tight monetary policy. Scaling up might double aid to Zambia over the next 10 years and result in aid-to-GDP ratio of 14 percent. The increase in copper revenues dwarfs debt relief and increases in aid, but it is unclear how much of this additional copper revenue will be a net supply of foreign exchange to the Zambian domestic economy.

[50] The direct fiscal impact of any reversal of fortunes in the mining sector is expected to be negligible because of the tax exempt status of mining.
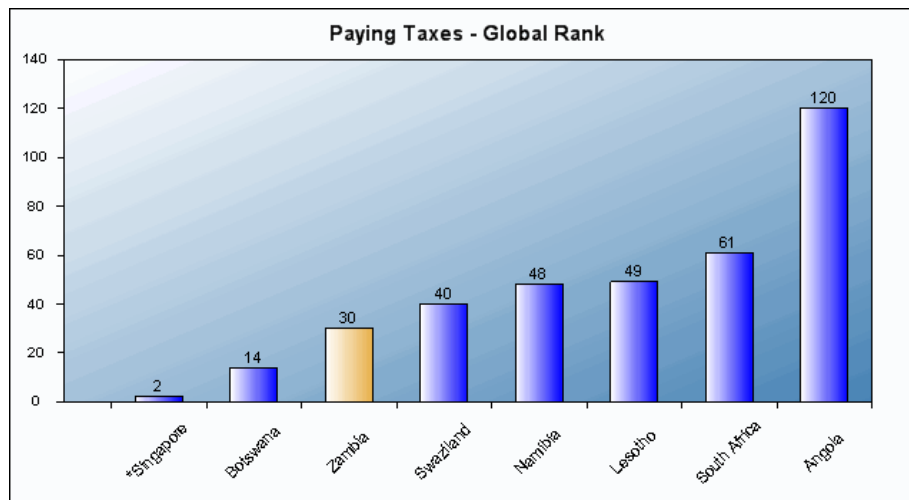
[51] See World Bank (2007b).

number of problems with the tax system are well documented: the high frequency of unexplained or unjustified changes in tax policy, corrupt practices, and a tax administration perceived as arbitrary and punitive.

The tax system has created disincentives for entering the formal sector and has disadvantaged small enterprises. The sales level for VAT registration for instance is very high. It stands at $40000 at a time when per capita income is just $375. This high level discourages even medium-sized firms from entering the formal sector. Specific taxes may also impede the growth of specific sectors. A 2004 study finds that VAT exempt status hurts farmers because their effective burden rises sharply without the ability to reclaim VAT on inputs. Another example is the 3 percent turnover tax levied on small agricultural producers, because its threshold of 20 percent profit rate is unrealistically high for small-scale farmers.

The tax system is also problematic in the sense that it distorts competition between and/or within some sectors. The tourism sector is one example. This sector is seldom part of tax incentive schemes provided to many other non-traditional merchandise exports. Moreover, certain tourism service providers – such as Sun International, a foreign owned firm – have resources to negotiate special deals putting them in an advantageous position compared to small, domestically-owned firms.[52]

Figure 22: Country comparison of global ranking on tax level

Source: World Bank (2008b)

Zambia has one of the most open trade regimes in Africa with a rating of 2 ("open") on the IMF's restrictiveness index ranging from 0 to 10 ("most restrictive") and according to the Africa Competitiveness Report, which measures openness based on levels of import and export restrictions, licensing requirements and exchange controls. Average tariff rates were also lower in Zambia than in other SSA countries.

Zambian exporters also have access to inputs at world prices through the duty drawback system which allows for rebates on tariffs paid on imports used in the production of exports. The main problems with the duty drawback system include the requirement of detailed and comprehensive input-output coefficients and the long time taken to get the rebates. There is also the concern that the system benefits mainly large export-oriented companies, and not small and medium-sized firms.

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[52] See Mattoo and Payton (2007).

4.3.4.3   Are government interventions obstacles to inclusive growth?

Regulatory uncertainty is cited as the fourth most constraining factor in the general survey of business owners (World Bank, 2004a). Most firms (70 percent) think that officials' interpretation of regulations affecting their businesses is inconsistent and unpredictable.[53] The problem is especially acute in agriculture and is related to the contentious government's Fertilizer Subsidy Program. The government has issued confusing and haphazard policies, repeatedly promising to withdraw from the fertilizer market but then re-entering the market under popular pressure to assist the rural poor.[54]

According to World Bank (2008a), 5 percent of Zambia's national budget goes to agriculture of which more than half is earmarked for the Fertilizer Subsidy Programs (37 percent) and maize marketing (15 percent). Only 3 percent of the agricultural budget goes to much needed irrigation and other rural infrastructure, and 11 percent to operating costs including agriculture extension and research.

Zambia fares poorly on another procedural item that hampers growth, especially inclusive growth. Firing cost are unusually high in Zambia, as measured by the weeks of wages employers are required to pay – 178 weeks in Zambia vs. 71 weeks in SSA, 65 weeks in LICs and 72 weeks in developed countries. This unusually high firing costs, coupled with high HIV/AIDS prevalence implies that the Zambian labor market is a lot less flexible than suggested by the rigidity of employment index, which measures difficulty of hiring and the rigidity of hours of employment. The regulation clearly discourages companies from hiring employees and creates disincentives for companies to move from the informal to the formal sector.

4.3.4.4   Land Rights

The land tenure system in Zambia is dual and the majority of land is held under customary land arrangements with limited transfer possibilities. Only 6 to 15 percent[55] of total land allows for ownership rights and registration under the so called statutory tenure.[56] The system governing the rights over this land is administered by the state under the English statutory law, and distributed in 99-year leases.

Despite this dominance of customary land holding, the land system is not perceived as a binding constraint to inclusive growth in the short to medium term by most stakeholders in

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[53] The number of procedures for starting a business, dealing with licenses and permits, registering property, procedures for filing a lawsuit on payment disputes, as well as the costs of starting and closing a business and registering property are all below regional and LIC averages.

[54] The current Fertilizer Subsidy Program has many problems and is one example of government failure. The government issues contracts for fertilizer purchases at the last minute and allows little time for successful bidders to import and deliver fertilizer. Because of this, importers are forced to use higher cost import routes, which has nearly doubled the price the government pays (Mwape, 2004). Moreover, the program is not well targeted and many recipients are not farmers (only 20 percent of small farmers use fertilizers) but traders, who resell fertilizers at large markups, to the well-connected and high-income groups located close to tarmac roads and district centers (World Bank, 2008a). Thus, the system opens the door to rent-seeking and corruption, distorts the market, depresses the supply of fertilizer on the commercial market, and crowds out private operators. The uncertainty about the timing and level of government purchases is particularly damaging.

[55] Statistics vary by source.

[56] While individuals can use land and pass it on to family members through inheritance, no exclusive rights can be claimed by individual users, nor can they sell or mortgage the land. There are no formal documents of land ownership or use, and no taxes paid on this land. Unlike customary lands which are administered by traditional leaders, statutory lands are administered by the central government, and are mortgageable and subject to taxation. They are concentrated in and near Zambia's cities, along the railway line between Livingstone and the Congo border, in the mining areas of the Copperbelt, and in certain productive farming areas. These areas are the most valuable and productive land in Zambia.

Zambia. First of all, land is abundant in Zambia. The area of available cropland per 1,000 people is more than twice that available in SSA and other parts of the world. Only 40 percent of arable land is used suggesting economic potential that still is not fully exploited.

Access to land is not a binding constraint for small scale farming, as of today. Most smallholders who demand more land from their village chief do get land. Lack of land was mentioned by only 4 percent of the respondents to the survey on self-assessed reasons for poverty (Figure 15). Despite the small plot sizes under cultivation in small scale farms (Table 5), a typical household does not have the capability of cultivating more land (Alwang and Siegel, 2003), suggesting there are other constraining factors to farm output and income growth. Jorgensen and Loudjeva (2005) also conclude in that a land reform should not be a priority until complementary reforms have ensured improved road network, access to fertilizers at competitive prices, and functioning extension services.

The customary land tenure system does not appear to limit the use of land as collateral. In a survey by Smith (2001) the majority of those expressing a desire for formal land titles did so because they wanted to avoid dispossession (78 percent), protect fixed investments (55 percent), and ensure transfer to heirs (50 percent). Although multiple answers were permitted, only 7 percent of respondents indicated that they wanted titles in order to use land as collateral for credit.

However, from a longer run perspective, the land tenure system in Zambia may be perceived as a binding constraint to growth due to the risk it creates for the future returns on investments.[57] It may also become an obstacle to expansion of small farms into commercial operations and the formation of more efficient farms that realize economies of scale.[58] Studies show that formal land titling has only been pursued by farmers already with links to commercial agriculture. Many argue that the real constraint is lack of "serviced and accessible land" implying that rural infrastructure services are the binding constraint to farm operations. There is also a backlog of land registration, which indicates that not lack of land but inefficiencies in the current administrative system is a bottleneck to the commercialization of Zambia's agriculture.

4.3.4.5 Governance

According to the World Bank's governance indicators Zambia scores high on *political stability*, but only fair on *voice and accountability*, *regulatory quality*, and *rule of law*, while on *control of corruption* and *government effectiveness* Zambia scores very low (Figure 23). Countries like South Africa, Botswana, Malawi, Tanzania, Uganda and Rwanda are all ranked higher than Zambia in terms of control of corruption and only Malawi is worse than Zambia on government effectiveness. Corruption penalizes disproportionately the poor in Zambia, according to surveys conducted in 2003 by the University of Zambia. Citizens in the lowest income deciles have to pay bribes that represent a higher share of their income than their counterparts in the middle and high income brackets.

Interestingly though, in a cross-country comparison looking at the correlation between these indicators and GDP per capita, Zambia has, given its GDP per capita level, a higher than estimated score on voice and accountability, rule of law, regulatory quality, and political stability, and close to its estimated score on control of corruption and government effectiveness.[59] Moreover, the fact that government effectiveness has been improving since the late 1990s along with improvements in the economic conditions, is a sign of effective reforms. These

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[57] More than half of the respondents to the survey by Smith (2001) expressed desire for formal land titles because they wanted to protect fixed investments.

[58] The current land tenure system may potentially lead to land concentration, and therefore increases in inequality, as those with easier access to formal land rights may overtake the more productive areas. However, others argue that a formal land titling system would lead to increased land concentration if the poor are forced to sell their land leaving them without productive assets.

[59] Presentation by Ricardo Hausmann at Harvard, Cambridge, November 19, 2007.

improvements must continue especially in terms of budget execution, transparency and accountability (World Bank, 2004b).

Despite improvements in recent years, many governance indicators are still low implying that it would be difficult to address effectively the binding constraints to inclusive growth. This is especially evident when studying the coordination failures in Zambia discussed in the next section on market failures. In this section we conclude that governance failures are indeed constraining inclusive growth.

Figure 23: World Bank Governance Indicators for Zambia
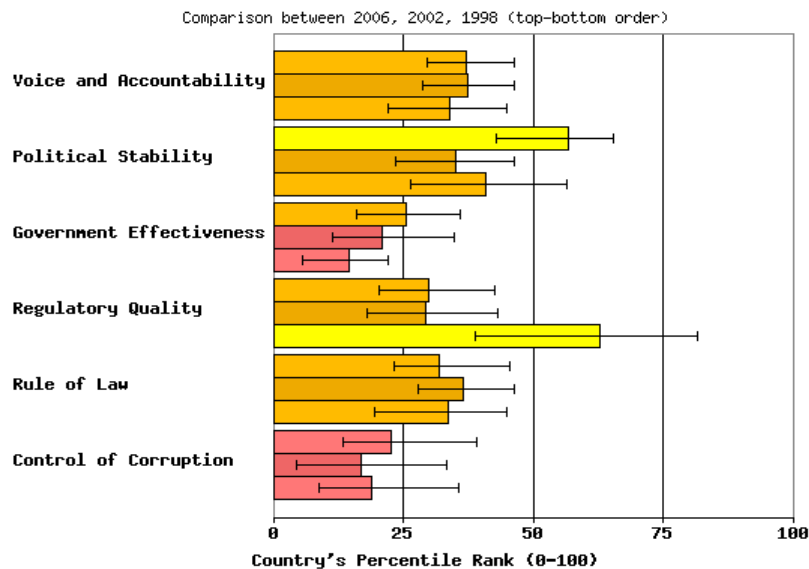
*Source*: Kaufmann, *et al.* (2007)

4.3.5 *Are market failures reasons for low returns?*

Firms need services in order to innovate, market their products successfully, and make a profit. These services link the supply chain between producers and consumers, and require simultaneous, large-scale investments in various sectors of the economy (Rodrik, 2004). They include the provision of infrastructure and institutions linking the different steps in the production chain, access to markets, and basic services such as irrigation, electricity, water. Other services not previously mentioned include marketing, research and product quality information.

However, the incentive to establish these kinds of services is limited for an individual entrepreneur due to small market size in the case of private services, and due to non-exclusiveness in the case of public services. Hence, coordination externalities is not an umbrella concept for arguing that government should be involved in all aspects of economic life, but should be described as the failure of the market to respond to potential investors' demands for a diverse set of services. This potential problem is especially common in sparsely populated countries such as Zambia, and implies that the government needs to focus their public investments on pockets of growth rather than country-wide investments, and may need to make initial investment in certain private services that would have been provided by the market if economic activity had reached a certain level.

Arnold *et al.* (2006) analyze the relationship between the performance of local service providers and the productivity of firms in downstream industries, using Investment Climate Surveys with panel data of 1,185 firms in 10 SSA countries. After controlling for systematic differences at the country, industry and firm level, the study for example predicts that Zambian firms would be 13 percent more productive if they enjoy the same access to telecommunications as South African firms, and 6 percent more productive in the case of access to banking services.

Figure 24: The number of households with access to facilities within five kilometers
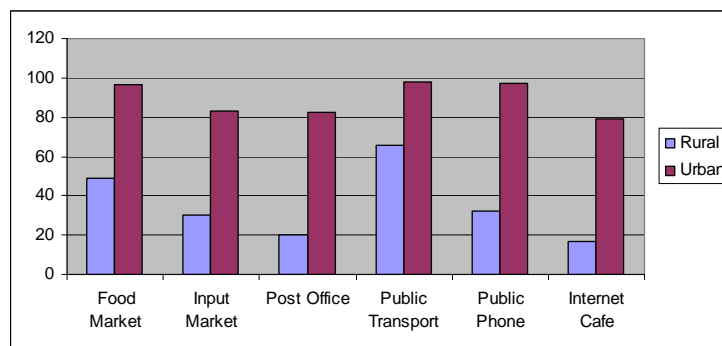
Source: CSO (forthcoming)

Rural areas are at a disadvantage to urban areas when it comes to very basic facilities for a functioning market (Figure 24). The limited resources of the government and the sparsely populated rural areas will make it impossible to substantially improve these basic services in all areas. However, a cluster strategy to provide basic services to multiple industries and create positive externalities is worth exploring. In Box 1 below we present some cases of coordination failures and specific industry cases where pockets of private sector growth have been achieved when supported by basic services.

Lack of innovation, or the ability to identify profitable products for new investments, is another form of market failure. Potential reasons for poor innovation could be information externalities, which may arise when information about economic opportunities has the potential to benefit many investors, but is costly to gather. As a result, no single potential investor gathers the necessary information. In Zambia and other developing countries, innovation is seen less as the actual "invention of new products", but rather as the successful diversification of the economy including by imitating existing products and producing them at lower cost, developing new varieties, increasing the number of exports and the export destinations.

As mentioned earlier Zambia has successfully diversified its economy in the past 15 years. The number of exports increased from 501 in 1998 to 704 in 2005.[60] A large share of these exports – between 74 and 80 percent – was exported again the following year. The number of countries buying Zambian products expanded from 68 in 1997 to 105 in 1999, before falling down to 82 in 2003, and rising again to 95 in 2005.

Non-traditional exports have increased, although they continue to make up only a small share of exports. Since the main non-traditional exports are farm products, scaling up of these activities is bound to have a positive effect on the income of the rural poor, and has already been identified as a government priority in the Zambian PRSP.

This section defines and discusses coordination failures but other parts of this paper also touch on this topic as there are links between coordination failures, the provision of basic services and infrastructure, and governance problems. The point we would like to highlight is the importance of tackling these three interlinked constraints at the same time in order to create conditions for high, sustained growth in Zambia.

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[60] Source: World Bank (2007b).

Box 1: Examples of Coordination Failures in Zambia

In agriculture, smallholder farmers lack access to and information on proper use of fertilizer, chemicals, irrigation, seed selection which leads to low yields per hectare and low productivity. Although higher than the yields in SSA, average cereal yields in Zambia are much lower compared to those in the rest of the world and yields in the early 1980s.[61] Food security remains an issue as the volatility in domestic cereal production is much higher than the average for SSA and the world. These outcomes are not surprising when one considers the use of irrigation and fertilizers in Zambia. The percent of irrigated cropland in Zambia in the period 1999-2001 was less than one percent, compared to nearly 4 percent in SSA and 18 percent in the rest of the world. In 1999, the average annual fertilizer use was not only below the use in SSA, but was nearly 10 times less than the use of fertilizers in the rest of the world.

The market access problems due to poor road networks faced by farmers are augmented by the fact that only few intermediaries serve as channels between multiple smallholder farmers and/or delivery locations to food processing firms. As a result, agro-processing firms operate at low rates of capacity utilization. This makes achieving economies of scale difficult and is an obstacle to the expansion of the agro-processing industry. The food processing industry in turn lacks access to information on modern food processing, packaging and labeling facilities. Modern food research, testing and product development facilities are absent or inadequate, limiting the ability of firms to expand exports, especially to developed country markets.

Bramilla and Porto (2006) collected farm level productivity data from several districts in Zambia, making it possible to show how maize and cotton productivity are negatively correlated with weak service performance as measured by the Investment Climate Surveys. In the cotton sector, the firm productivity rank of Zambian districts is 90 percent correlated to the rank of availability of phone lines in the same district, 90 percent correlated to the rank of reliability of transport services, and 87 percent correlated to the rank of cost of finance. In the maize sector, the firm productivity rank of Zambian districts is 77 percent correlated to the rank of availability of phone lines, while the correlation to reliability of transport services and cost of finance could not be statistically confirmed.

The lack of middlemen and information is especially severe in sparsely populated, remote rural areas. Agricultural extension services provided by the government, NGOs, donor-funded projects or churches may fill that need to some extent. However, extension services provided by the government were more common before the reforms starting in 1991. The purpose of these were to help farmers in identifying markets, adopting new techniques, reducing fertilizer costs, reducing livestock diseases and others. In a study of Zambia it was found that households with access to extension services had higher productivity than those who did not (Balat and Porto, 2005). The small scale farmers, i.e. the poor were the ones most affected by the decline in extension services as the large scale farmers can absorb more easily the fixed cost of finding the knowledge or access alternative information channels.

The deterioration in extension services has encouraged some alternative methods of information transmission. One is the technical assistance combined with credits under outgrower schemes. Under these schemes an entrepreneur contracts a smallholder to produce a commercial crop later marketed by the entrepreneur. The entrepreneur provides necessary technical assistance to reach the agreed production levels and guarantees a certain level of market outlet.

These schemes have been very successful and indicate that overcoming coordination failures may ignite growth in the agricultural sector. National production of cotton tripled between 2000 and 2003, and credit repayment improved from 65 percent to more than 90 percent, with the introduction of a refined outgrower arrangement (World Bank, 2008a). Currently about one-third of Zambia's smallholders participate in some form of outgrower scheme arrangement, of which 85 percent are engaged in cotton production. Other crops produced by smallholders are tobacco, paprika/chili, honey, and to some extent sugar, coffee, and dairy products.

Zambia's cotton sector offers another success story, documented in Ellis and Freeman (2005). Cotton production grew rapidly in the mid-1990s, but growth was interrupted by problems with credit recovery, as new entry into the sector encouraged increased side-selling by producers. The world's largest cotton trader, Dunavant, which operated one of the two major cotton operations in Zambia, responded to this challenge by implementing the so-called 'distributor' system, whereby extension agents are transformed into self-employed contractors, who on-lend and provide extension support to producers. The 'distributors' are paid by the cotton companies on the basis of seed cotton volume delivered and the level of loan recovery achieved. Although the system is still in its infancy, yields have been gradually increasing in recent years, production has surpassed its mid-1990s peak, and credit recovery has improved substantially.

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[61] *Source*: World Resource Institute (http://earthtrends.wri.org)

5 Conclusions

This paper argued that inclusive growth country analytics has a distinct character focusing on the pace and pattern of growth. Rapid pace of growth is unquestionably necessary for substantial poverty reduction, but for this growth to be sustainable in the long run, it should be broad-based across sectors, and inclusive of the large part of the country's labor force. This definition of inclusive growth implies a direct link between the macro and micro determinants of growth and captures the importance of structural transformation for economic diversification and competition, including creative destruction of jobs and firms.

The paper described the conceptual elements for an analytical strategy aimed to integrate these two strands of analyses, and to identify and prioritize country-specific constraints to sustained and inclusive growth. Policies for inclusive growth are an important component of any government strategy for sustainable growth and the frameworks for inclusive growth analytics are eclectic in spirit. The main instrument for a sustainable and inclusive growth is assumed to be *productive* employment. *Employment growth* generates new jobs and income for the individual - from wages in all types of firms, or from self-employment, usually in micro firms - while *productivity growth* has the potential to lift the wages of those employed and the returns to the self-employed. The ability of individuals to be productively employed depends on the opportunities to make full use of available resources as the economy evolves over time. The analysis therefore looks at ways to strengthen the productive *resources and capacity* of the individual on the labor supply side as well as ways to open up new *opportunities* for productive employment on the labor demand side. The inclusive growth approach takes a long-term perspective. With this longer-term perspective, it is important to recognize the time lag between reforms and outcomes. Inclusive growth analytics is about policies that should be implemented in the short run, but for sustainable inclusive growth in the future.

We applied the proposed framework to the case of Zambia – a country whose poverty rates did not decline significantly despite a period of positive, broad-based and stable growth record and immense untapped potential in agriculture, mining and services. The main factors limiting returns to labor and job creation are market *coordination failures* such as poor access to domestic and international markets, inputs, extension services and information. High indirect costs undermine Zambia's competitiveness, limit job creation, and therefore serve as a major constraint to inclusive growth. Coordination failures are especially severe for the poor who cannot afford the fixed cost associated with finding alternative sources for inputs, marketing and other types of services. Improving the quality and access to *secondary and tertiary education* as well as continuing the fight against *HIV/AIDS* are essential if the poor are to benefit from future growth of the non-farm economy. Finally, *weak governance*, in particular poor government effectiveness, is a factor behind the market coordination failures and is as such a major obstacle to inclusive growth. Weak governance is also reflected in *distortionary policies*, especially within agriculture.

This work does not propose policies to deal with the binding constraints to inclusive growth. It is an initial step in the process of developing a strategy for relaxing the constraints. The policy design is a second step that requires an in-depth analysis of each constraint and an ex-ante analysis of the effects of policy reforms to remove this constraint.

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