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LMIP WORKING PAPER 10

Studies of Selected Priority Sectors in the South African Labour Market

A Proposed Research Programme

Haroon Borat and Morne Oosthuizen

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LABOUR MARKET
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Preface

One of the gravest economic challenges facing South Africa is high unemployment, but at the same time, a skills mismatch. The market demand for skilled labour is greater than the number of individuals completing post-school education and training. Prospective employers often complain that the education system does not give individuals the necessary skills to be productive in the workplace, or to start their own enterprises.

Government acknowledges that the unemployment crisis is a systematic problem and cannot be addressed by ad hoc interventions scattered across line departments. With this 'big picture' thinking in mind, DHET aims to create broad and equitable access to a full spectrum of post-school opportunities and lifelong learning encompassing adult education and training, workplace training, the FET college system, artisan and technical training, higher education and innovation.

DHET's ability to create these learning opportunities requires a network of partners to gather and maintain a labour market intelligence system. Such a system can provide analytical insights to support policies and intervention programmes.

In February 2012, therefore, DHET commissioned a HSRC led research consortium to support its capacity to create and maintain a labour market information and intelligence system, guided by the national Delivery Agreement 5. The primary focus is the development of a 'strategic intelligence capability' towards the establishment of 'a credible institutional mechanism for skills planning'. The HSRC coordinated research project is organised in terms of six interlocking research themes, two which focus on labour market information and four which focus on labour market intelligence:

- Theme 1. Establishing a foundation for labour market information systems in South Africa
- Theme 2. Skills forecasting: the supply and demand model (*a Wits EPU project*)
- Theme 3. Studies of selected priority sectors
- Theme 4. Reconfiguring the post-schooling sector
- Theme 5. Pathways through education and training and into the workplace
- Theme 6. Understanding changing artisanal occupational milieus and identities

The consortium made a strategic decision that their research must not duplicate or repeat existing research about the challenges facing South Africa's education and training system and labour markets. Their research must address gaps, promote synergies and explore complementarities.

Hence, as a first step, working papers were commissioned to inform the research agenda for each theme. Although the working papers cover different issues, each has four common dimensions: policy challenges to institutionalise and build a post-school education and training system in South Africa, lessons from seminal national and international research, conceptual frameworks, methodological issues and data challenges raised by this research, and potential research gaps.

One of the HSRC led consortium's goals is to create a living community of practice that researches and debates education, skills and labour market issues. These working papers were presented at a conference in May 2012 to start building such a research network.

The dissemination of these working papers is intended to encourage more individuals to join the research community. We look forward to individuals' comments. They can be emailed to agoldstuck@hsrc.za.za. Welcome to the research community!

Theme 1:	Theme 3:	Theme 4:	Theme 5:	Theme 6:
Establishing a foundation for labour market information system in South Africa	Studies of selected priority sectors	Reconfiguring the post-schooling sector	Pathways through education and training into the workplace	Understanding changing artisanal occupational milieus and identities
Simon McGrath Some international reflections on developing VET indicators	Haroon Bhorat and Morne Oosthuizen Studies of Selected Priority Sectors in the South African Labour Market: A Proposed Research Programme	Andre Kraak Private post-school education in South Africa	Michael Cosser Pathways through education and training and into the labour market	Angelique Wildschut Conceptualising the study of artisans
Phil Toner Establishing a foundation for labour market information systems in South Africa	Peter Jacobs and Tim Hart A critical review of the research on skills development in rural areas	Andre Kraak Differentiation in the post-school sector	Pundy Pillay Pathways through education and training and into the workplace: a concept paper	Jeanne Gamble Models and pathways to institutionalise apprenticeships
Anthony Gewer Developing a framework for institutional planning and monitoring in FET Colleges	Shirin Motala A critical review of research on skills development and labour market demand in the early childhood development sector	Joy Papier et al Contemporary issues in public FET colleges	Sharlene Swartz Navigational capacities for youth employment: A review of research, policies, frameworks and methodologies	
Carmel Marock Developing a framework for understanding SETA performance: Monitoring and evaluating their role in skills planning, steering and enabling a supply within their sector	Thembinkosi Twalo A comparative review of skills development in cooperatives	Veronica McKay A critical review on Adult Basic Education (ABET) in South Africa	Fiona Lewis Traffic jams or trees – how are South African youth progressing through the higher education sector? And what lessons can we learn from current studies?	
Bongiwe Mncwango Towards a demand side firm level survey of labour information in South Africa	Margaret Chitiga and Stewart Development of a national skills forecasting model	Thenjiwe Meyiwa and Nolutho Diko The state of graduate teacher transitions to the labour market	Stephanie Alais Jobs? What jobs? Skills? What skills? An overview of studies examining relationships between education and training and labour markets	

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Michael Cosser and Fabian Arendse Education and labour market indicators	Imraan Valodia Conceptualising skills development in the informal sector	Felix Maringe An overview of studies exploring systemic issues related to the South African post-school sector		
Joan Roodt National database sets and research on labour market demand		Peliwe Lolwana Is post-school education adult education and training? The shape and size of post-school education		
Mariette Visser National database sets available for post school sector (supply side)		Michelle Buchler A critical review of research on skills development qualifications structures		
Michael Gastrow Innovation, skills development and South African labour market intelligence		Volker Wedekind Towards responsiveness and employability in the post-school sector		

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BACKGROUND

Economic growth in the long-run is driven primarily by two factors, namely increased stock of factor inputs such as capital or labour and increased productivity through technological change (Bhorat and Hodge, 1999). Since the 1970's, South Africa's aggregate experience was similar to other developing countries with a steady increase in aggregate output, driven by an increasing stock of labour and/or capital most notably in the 1970's and 1980's. In turn, it is from the 1990's that we see the rapidly rising role of technology in the growth process. Indeed in the last two decades it is safe to argue that technological change and innovation have been one of the most important determinants of South Africa's growth level and trajectory.

It is clear however that the nature of this economic growth path in South Africa, has had a profound impact on the nature and trajectory of the economy's labour demand patterns. Put differently, the type of economic growth experienced by South Africa since the 1970s and well beyond 1994, has had a fundamental impact on the nature of employment movements at the sectoral and occupational level. In turn of course, this pattern of employment has been crucial in inadvertently defining and characterising the returns to households and individuals on the basis of their human capital attributes.

Ultimately then, the nature of sectoral and occupational labour demand trends, given South Africa's economic growth path, have defined much of the debate around skills shortages, high levels of unemployment and the need for a more equitably growth path. It is in this nexus between the nature of economic growth and the role of skills in this process, that this proposed research programme is located.

1. A PROPOSED RESEARCH PROGRAMME

Projects under this theme would complement and deepen the analysis gained from forecasting research through in-depth and contextualized sectoral research found in Theme 2. The focus here will be on sectors that have been prioritized for investment and growth in the Industrial Policy Framework and the New Growth Path. At its core, the New Growth Plan targets job creation. International research demonstrates that to achieve this requires a creative combination of not only high absolute levels of growth, but also, increased labour-intensity in production. The more labour intensive an economy, the larger the reduction in household poverty (Loayza and Raddatz 2005). In such a context, understanding the drivers for both labour-intensity and economic growth *at a sectoral level* are crucial. We need research that will assist us to understand empirically the critical link between sectoral growth, employment and poverty reduction in South Africa.

The proposed research agenda thus centres on a set of skills needs-employment- and growth outcome sectoral studies, aligned to the goals of the New Growth Path. An empirical retrospective overview of skills-biased employment shifts in South Africa since 1994 is proposed as the first project, to identify the sectors that have experienced 'job-less' growth and those that have promoted employment. These projects would use a combination of household and labour force survey data. A set of scenarios of skills needs in selected sectors, to identify trade-offs relative to growth drivers and returns, and identify which sectors can provide the optimal mix would then be possible.

A third set of projects would focus on developing a generic approach for sector-specific studies. The capacity to understand drivers of change in priority economic sectors, how that is likely to affect the demand for skills at different levels, and how this relates to current and future education supply is critical to the effective functioning of SETAs. This has been a major gap in labour market research in South Africa. The Labour Force Survey is ill- equipped to predict skills needs at other than a national level, and is not useful at a SETA or local labour market level. Regular SETA firm surveys have thus been proposed in the Minister's agreement with SETAs. The project would work with selected SETAs

to develop frameworks for analyzing skills shortages and needs, drivers of change and supply trends. Business cycle driven skills needs would be assessed through the surveys at the occupationally detailed sub-sectoral level, as the firm client base understands demand much earlier than other institutions. This will enable the identification of emerging sectoral growth trends which require specific skills and new occupations urgently. Qualitative assessment and engagement with industry experts at the micro-level on skills needs and future demand will assist in identifying skills deficits and shortages, and trends in skills needs. Such labour market intelligence can serve to develop an early warning system and inform planning ahead for future skills needs.

A critical fourth set of projects would focus on the informal sector. Most existing research tends to focus on the formal sector, and on those in formal employment. We have little empirical sense of trends in the informal sector, on the kinds of skills needs of informal micro-businesses and SMMEs on which so many South Africans rely for survival. The projects would develop a generic approach, in order to institutionalize the information systems required to sustain such research. The frameworks, data architecture and models could be rolled out progressively to more SETAs, inform the curriculum focus of public and private community, worker, agricultural and FET colleges, adult education centres and higher education institutions.

2. FOCAL AREAS OF THE PROPOSED RESEARCH PROGRAMME

Below we provide a detailed outline for each of the four components of this proposed research programme. Specifically the proposed areas are:

- Skills-Biased Employment Demand: An Empirical Overview
- Growth, Employment and Skills: The New Growth Path Revisited
- SETA Labour Markets: A Primer for SETA Performance Improvement
- Employment Creation Through the Informal Sector: A National Skills Plan

In each of these a broad outline is suggested, with the key questions and issues (including the data availability) defining the specific sub-theme. These would of course be more than amenable to modulation, based on interaction with and feedback from reviewers of this document.

2.1. SKILLS-BIASED EMPLOYMENT DEMAND: AN EMPIRICAL OVERVIEW

This first key area of Theme 3 proposes to deal with the following broad research questions and issues:

- What has been the nature of skills-biased employment trends in South Africa, at the occupation-sector level since 2000?
- The notion of pro-poor growth in South Africa lies at the heart of economic-policy formulation. What has been the role and impact of human capital accumulation in attempting to produce a pro-poor growth trajectory for South Africa since 1994?
- What is the role of institutions in predicting labour market outcomes? Does it matter where you study? Or in which field? Are these factors more important than your race, gender and home language in predicting employment and earnings outcomes?

2.1.1. The Nature of Skills-Biased Employment Trends in South Africa

The empirical work on the nature and extent on skills-biased employment trends since 2000 is surprisingly thin. Much of the earlier work examining the role of trade, technology and structural change on employment shifts in the South African labour market, has not formally been updated and extended with more recent, arguably richer, micro-datasets. This is a key lacuna in the literature and this component of the project will hope to fill this gap. Indeed, the notion that we need to

understand both the typology of skills-biased employment trends in South Africa, and the importance of different factors in driving this change – is the empirical bedrock upon which to build our labour demand trends analysis. The results from earlier work, provided in the tables below, may for example, provide a window into the proposed analysis here.

Table 1 below for example uses one proposed decomposition technique (although not the only one) to calculate the industry-based relative demand shifts, by occupation between 1995 and 2005. There has been a rise in the relative demand for most occupational categories with the highest positive demand shift recorded for managers, followed by craft and trade workers and clerical workers. These increases show strong employment growth in sectors such as finance, trade and construction, which translated into increased demand for certain skilled and semi-skilled categories. Operators & Assemblers experienced the lowest relative increase. Coupled with the decline in the demand for elementary workers, this reflects the general increase in preference for skilled and semi-skilled workers in the economy during the first decade of democracy in South Africa¹.

Table 1: Industry-Based Relative Demand Shift Measures by Occupation, 1995-2005

Occupation	Between	Within	Total	Share of within in Total
Managerial	1.28	18.24	19.52	93.46
Professional	1.42	7.50	8.92	84.08
Clerical	2.43	14.66	17.09	85.78
Service	2.24	14.34	16.58	86.50
Agric. & Fishing	-0.17	-17.23	-17.40	99.00
Craft & Trade	2.39	14.68	17.08	85.99
Operators & Assembler	0.73	5.20	5.93	87.62
Elementary	-0.13	-0.53	-0.66	80.37
Domestic Workers	1.48	10.16	11.64	87.26
Unspecified	-0.18	-18.73	-18.91	99.03

Source: OHS 1995, LFS 2005(2) (Statistics SA) & authors' own calculations.

In comparing the between- and within-sector contributions (what we have referred to as structural change and technological change) to overall labour demand shifts- it is clear that for all occupation groups, within-sector factors played the dominant role in explaining relative demand shifts. Within-sector shifts explained more than 80% of the change in relative demand across all occupations. This share was highest for managers (93%) and lowest for elementary workers (80%), which may suggest that between-sector forces play a slightly larger role in the change in the demand for unskilled workers. Overall, however, it is clear that forces within firms and within sectors, including for example technological change and rising capital-labour ratios, were the main reasons for the relative labour demand shifts over the decade.

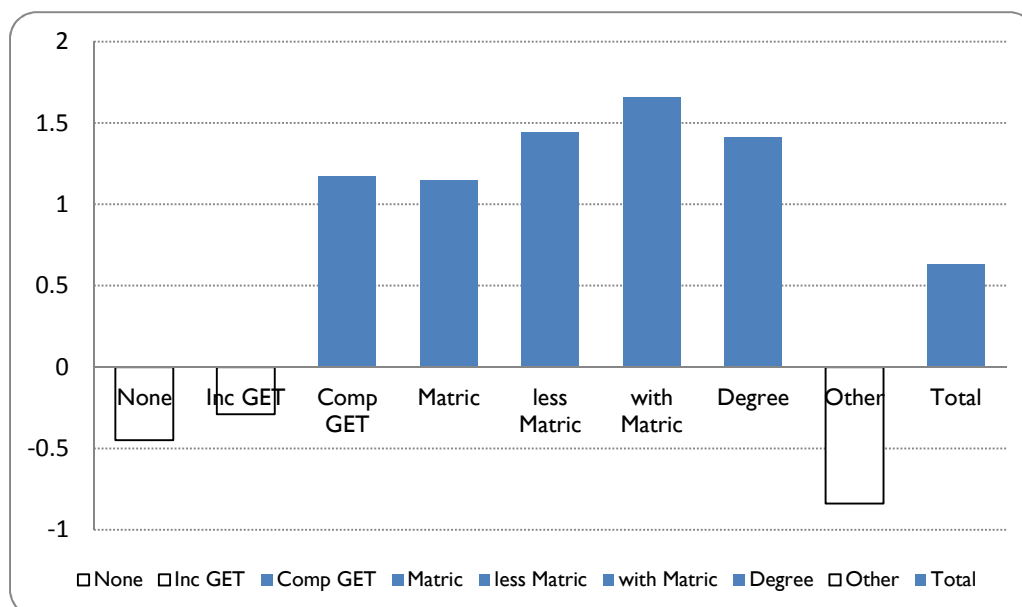
¹ The decrease in relative demand for skilled agricultural and fishery workers is difficult to interpret due to the reclassification of skilled agricultural workers as a new occupation group.

Ultimately though, the above analysis requires an updating to ensure that we have a set of estimates of skills-biased employment shifts and their causes over the 2000-2012 period. In addition, these estimates are arguably more reliable given that they will be based on a more consistent and comparable set of micro-datasets – namely the Labour Force Surveys and Quarterly LFSs of Statistics South Africa. The above estimates are open to the critique that they traverse two differing types of survey data.

2.1.2. Pro-Poor Growth Dynamics and the Skills Intensity of Growth

This research programme would be wholly incomplete if it did not attempt to interrogate in greater detail the nature of South Africa's growth performance – within the context of which education (and therefore implicitly skills) cohorts have gained or lost from this period of unprecedented post-apartheid economic growth. In a sense, what we hope to present in this section of Theme 3 is another methodological approach to examining the nature of South Africa's skills-biased labour demand trajectory. Specifically then, we investigate the impact of growth on employment and whether or not the level of educational attainment played a role in the distribution of employment gains in the South African labour force. Below we present the simple output-employment elasticities noted above, but in this case we estimate these by levels of formal education. The aggregate output-employment elasticity estimate for South Africa over the 2001 to 2007 period stands at 0.6. This implies that a 1 per cent increase in output is associated with a 0.6 increase in total employment, reflecting a high level of sensitivity of employment shifts to economic growth. Of particular interest here however, is to try and understand how this simple elasticity varies when the employed are categorized by education levels, by sector and then finally by sector-education cells. In doing so we begin to understand whether or not the process of economic growth has delivered equal employment gains to workers across the education continuum, within the stipulated sectors. In many senses, this could form the starting point for SETAs in their consideration of growth in their specific sectors, is translating into gains for workers across the skills spectrum.

Figure 1: Output-Employment Elasticities, By Education Level, 2001-2007



Source: Labour Force Survey, 2001 and 2007 & author's own calculations

Notes:

1. The ratio of employment growth to GDP growth presented in the final column is not a true output elasticity of employment.
2. Education categories are no education, Incomplete GET, Complete GET, Matric (12 years of schooling), Diploma/Certificate with a complete Matric, Degree, and Other.

The figure above is a typical example of the elasticity estimates we would propose to provide at the sector, education and sector-education level – all for a longer time period. With this data example above, we note that although economic growth has had a positive impact on total employment, the gains from growth in output have been skewed towards the better educated. This is evidenced by the positive elasticity estimates for those with a Complete GET qualification or higher. In contrast, the output-employment elasticities for those with no education or an Incomplete GET are negative (-0.45 and -0.28 respectively). The latter two estimates show that a one per cent increase in output over the 2001 to 2007 period was associated with a decline in the employment of those with no education and an Incomplete GET of 0.5 per cent and 0.3 per cent respectively. In contrast, better educated individuals benefited from growth over the period, as evidenced by the positive output-employment elasticity estimates for a Complete GET, Matric or Tertiary qualification. For instance, a one per cent increase in output yielded a 1.4 per cent increase in employment for individuals with a Degree qualification.

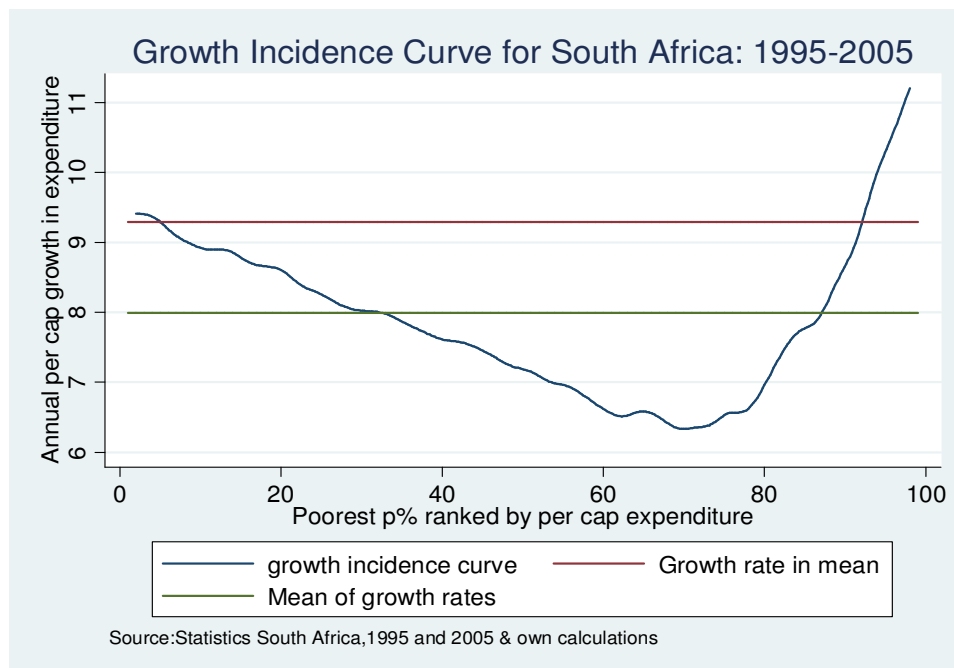
A second approach within this thematic rubric involves trying to interrogate this relationship between economic growth and education in more detail. In order to do so, it is proposed that we will utilize the analytical approach available to us through Growth Incidence Curves² used in the pro-poor growth series literature (Ravallion, 2003; Ravallion and Chen, 2004). Essentially, we try and estimate the percentage change in expenditure across the percentile-defined distribution for households according to the level of education of the household head³. An example of this approach is contained in the figure below, which derives a GOC for South Africa as a whole, with no specific reference to educational levels of attainment.

Hence, in the GIC for South Africa for the period 1995-2005 we examine the growth in expenditure per capita of the population, arranged according to ascending centiles of the distribution. It is clear from the GIC that growth in per capita expenditure was pro-poor in the absolute sense, with all the individuals across the distribution experiencing positive growth between 1995 and 2005. While individuals at the very bottom of the distribution clearly benefited more from the increased growth in expenditure than individuals up to the 70th percentile, this growth has not been pro-poor in a relative sense. Relative pro-poor growth was not evident, given that from around the 70th percentile, expenditure begins to increase steadily again, with individuals in the top ten percent of the distribution enjoying the highest average annual growth rates in the society. It is important to note that, at the bottom of the distribution, only the poorest 30 percent of individuals experienced average annual increases in expenditure above the mean of the percentile growth rates. Individuals between the 60th and 70th percentiles experienced the lowest growth rates at around 6 percent.

² A growth incidence curve (GIC) plots the growth rate at each quintile of per capita income. If we rank households by per capita income from poorest to richest, we can use the income measure for a given quintile at two different points in time, to calculate the growth rate for that quintile (Ravallion, 2003; Ravallian and Chen, 2004).

³ Education levels of all the individuals in the household were not available, and hence we resort to an imperfect measure of human capital accumulation within the household.

Figure 2: Growth Incidence Curve for South Africa: 1995 - 2005



Source: Statistics South Africa (1995 & 2008), own calculations

Notes:

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

This result means that economic growth, as measured by per capita expenditure in the first decade of democracy, was pro-poor in absolute terms.⁴ The average annual growth in mean per capita expenditure was just above nine percent over the period, while the mean of the growth rates at each percentile was eight percent over the period.

What is *not* clear from the above however is whether returns from economic growth were equal across the distribution for individuals and households – when classified according to their levels of education. It is not evident for example, whether growth gains to highly educated households, have been higher than the gains to Matric-educated households. And if the former was greater than the latter, this gap needs to be better understood and appreciated. The nexus between education and pro-poor growth then is thus a key focal point of this section of the research programme.

2.1.3. The Role of Human Capital Institutions in Predicting Labour Market Outcomes

The South Africa economy continues to rely on skilled labour from institutions which were formerly restricted to specific race groups. These universities, universities of technology and further, education and training (FET) colleges have become known as either Historically Black Institutions (HBIs) or Historically White Institutions (HWIs). The former tended to be under-resourced, but importantly also offered a more restrictive band of courses which are arguably also of lower quality relative to those on offer at the HWIs. Hence, the employment outcomes observed in much of our

⁴ Pro-poor growth can be considered “absolute” if the change in income/expenditure levels of the poor (as defined by a chosen poverty line) over a given time period is larger than zero, i.e. the income/expenditure levels of the poor have increased in absolute terms. Pro-poor growth can be considered “relative” if the change in the income/expenditure levels of the poor is larger than the change in the income/expenditure levels of the non-poor.

labour market models as being a function of race may in part be a proxy for the impact of poor quality degrees in fields of low labour demand, being accumulated by African work-seekers. Indeed, the rising spectre of graduate unemployment is testimony precisely to this problem. Data, therefore, for the post-apartheid period indicates that unemployment rates amongst those with post-matric qualifications, although low in absolute terms, have increased the fastest relative to other education categories since 1995 (Bhorat,2004). In addition, closer inspection of this graduate unemployment sample reveals firstly that it is disproportionately an African graduate problem: In 2005 Africans constituted some 85% of all unemployed individuals with a tertiary qualification. Secondly, the majority of these unemployed graduates had in fact not obtained a degree as some 82% of the sample had earned a diploma from an institution other than a university. The important point here though is that the type of institution attended the field of study and possibly even the quality of the tertiary qualification, are also crucial determinants of the differential labour market outcomes for African participants relative to non-African work-seekers.

Whilst the latter was for some time very difficult to measure, the availability of a survey of graduates by the Human Sciences Research Council (HSRC) known as the Graduate Pathways Survey, allows us to test precisely these types of questions and concerns. In particular then, we are able to assess whether type of institution, field of study and a range of additional personal and household variable do impact on employment outcomes within the South African labour market. The GPS tracked the 2000-2002 cohort of leavers and graduates from 7 selected Higher Education Institutions (HEIs)⁵ in South Africa into their final labour market destinations. The data was gathered from two postal surveys, the 2005 Graduation Destination Survey and the 2005 Student Retention Survey. The questionnaires were sent via mail to graduates and leavers respectively between June and September 2005. Graduates were defined as students who fulfilled the requirements for qualification in 2002. The estimates contain a residual bias of students who were still studying since these were not surveyed. Of the total survey population of 34,548 students within selected HEI, there were 5,491 valid responses, representing a return rate of 15.8%.

The data on institution attended makes it possible to control for whether institutions were historically black or White, and therefore for employer perceptions of quality of qualifications. The table below shows unemployment rates by race and type of institution. The estimated unemployment rates for all individuals from historically White institutions (HWIs) is significantly lower than that for individuals from historically black institutions (HBIs), with the differential standing at 8 percentage points.

⁵ The selected institutions were the University of Stellenbosch, University of the North, University of the Western Cape, University of Fort Hare, University of Witwatersrand, Technikon Pretoria, and Peninsula Technikon.

Table 2: Broad Unemployment Rates, by Institution and Race

Institution	African	White	Total
Fort Hare	0.56 (0.07)	---	0.67 (0.044)
Stellenbosch	0.55 (0.216)	0.12 (0.042)	0.13 (0.035)
Univ. of the North	0.42 (0.061)	---	0.57 (0.025)
Western Cape	0.42 (0.081)	---	0.3 (0.037)
Witwatersrand	0.29 (0.085)	0.07 (0.042)	0.23 (0.033)
Peninsula Technikon	0.51 (0.061)	---	0.41 (0.033)
Technikon Pretoria	0.38 (0.027)	0.06 (0.031)	0.27 (0.019)
Apartheid Classification of Institution			
Historically White	0.42 (0.05)	0.1 (0.032)	0.27 (0.021)
Historically Black	0.4 (0.024)	0.06 (0.031)	0.35 (0.016)
Total	0.41 (0.023)	0.09 (0.023)	0.32 (0.012)

Source: Author's own calculations using data from HSRC, 2005.

Notes: 1. Standard errors are reported in brackets and are corrected for by person weights. Bold indicates a significant difference at 5 % of Africans with Whites. 2. Data here is the weighted sample, weighted according to stratification by field of study, gender, race, institution for graduates and leavers.

3. – Missing values indicate that rates could not be calculated due to small sample size.

4. Rates calculated as the percentage of the economically active population (EAP). The EAP is defined as the total number of the employed and unemployed in that cohort. The broad definition includes the discouraged workseekers, that is, those who have given up searching for work. The unemployed excludes those who do not need to work, and those who are still studying.

5. L leavers G Graduates

In addition, the table shows that White graduates (9%) experienced much lower overall unemployment rates than Africans graduates (41%), with the differential standing at 32 percentage points. When combining data on race and institution attended, we find an extremely concerning result: The unemployment rate of Africans from HWIs (42%) is significantly higher than that of the White cohort at historically White institutions (10%). The differential stands at 32 percentage points, and is initial evidence that even when controlling for the institution, Africans and Whites have distinctly different probabilities of finding employment.

In addition to differentiating by type of institution, the table below controls for the field of study. The table shows that African unemployment rates are significantly higher than White rates irrespective of field of study. For instance, when considering Business/Commerce studies, 48% (46%)

of African graduates at HBIs (HWIs) were unemployed, while only 14% of White graduates were unemployed.

Table 3: Broad Unemployment Rates by Field of Study

Institution Type (Apartheid Classification)	Historically Black	Historically White	
Race	African	African	White
Business/Commerce	0.48 (0.045)	0.46 (0.106)	0.14 (0.126)
Education	0.09 (0.046)	0.24 (0.141)	---
Humanities	0.58 (0.032)	0.58 (0.081)	0.13 (0.05)
SET	0.37 (0.063)	0.33 (0.078)	0.05 (0.031)
Other	0.42 (0.082)	0.35 (0.262)	0.19 (0.106)
Total	0.4 (0.024)	0.42 (0.05)	0.1 (0.032)

Source: Author's own calculations using data from HSRC, 2005.

- Notes:
1. Standard errors are reported in brackets and are corrected for by person weights. Bold indicates significance at 5% level of Africans with Whites. * Significance at the 5 % level of Africans in HBIs with Africans in HWIs.
 2. Data here is the weighted sample, weighted according to stratification by field of study, gender, race, institution for graduates and leavers.
 3. – Missing values indicate that rates could not be calculated due to insignificant sample size.
 4. Rates calculated as the percentage of the economically active population (EAP). The EAP is defined as the total number of the employed and unemployed in that cohort. The broad definition includes the discouraged workseekers, that is, those who have given up searching for work. The unemployed excludes those who do not need to work, and those who are still studying.
 5. L leavers G Graduates
 6. Unemployment rates for Whites at HBIs were excluded from the table due to the small number of Whites enrolled in those institutions

However, within the same field, except for education, the total unemployment rates of Africans at HWI are lower than those of Africans at HBIs, and these differences were significant at the 5% level of significance. It is clear therefore that HBIs are much poorer in ensuring success in the labour market for graduates than HWI, even when accounting for field of study and race. The most worrying result however is that on the basis of the table above, Africans find it harder to secure employment than Whites, even when we account for both the type of institution and the field of study.

The descriptive evidence from the tables above thus appears to suggest that field of study and type of institution are important in determining the probability of finding employment. Furthermore however, this data also suggests that irrespective of the field of study and institution attended, the probability of finding employment is higher for Whites than for Africans.

The richness of such institutional data is very clear in the above descriptive overview. We would argue however, that there is are three additional areas of research within this sub-theme, which should be pursued:

- Firstly, that the analysis on the existing HSRC GPS, needs to be extended and enriched beyond the descriptive overview, to include more nuanced regression analysis, estimating

the determinants of employment and earnings within the labour market of the sample. This must be supplemented by data from the DHET on the financial and physical resources available to the different HEIs.

- A dataset consisting of a panel of students who were studying at 19 FET colleges across four provinces⁶ in 2003, with a follow up tracer study done in 2009, has been administered by the National Business Initiative (NBI). An econometric and detailed descriptive analysis of the determinants of employment and other labour market outcomes for these FET attendees is a key component of the work in this sub-theme.
- Arguably, the state is an investor in higher education (through the DHET), yet it ostensibly has no obvious and clear manner in which to measure the return on this investment. We would argue that one such return, is the probability of an individual finding employment after attending such HEIs. This data should be made available to the DHET by HEIs, in the form of an Employment Outcome Indicator for the different HEIs. This project could assist in developing the basis for such a set of Indicators, by suggesting a template (with examples) of such Employment Outcome Indicators for HEIs in South Africa.

2.2. GROWTH, EMPLOYMENT AND SKILLS: THE NEW GROWTH PATH REVISITED

- In his inaugural State of the Nation Address in June 2009, President Zuma communicated a framework for a new economic programme, with job creation at the centre of the plan (EDD, 2011). The New Growth Path (NGP) framework was released in late 2010 under the guidance of the newly created Economic Development Department (EDD). The main objective of the NGP is to address the persistently high levels of unemployment through the creation of decent jobs, with the definition of decent including sustainable jobs. Through the NGP, government has committed to creating five million jobs by 2020 and decreasing unemployment by 10 percentage points over the same period.
- In order to achieve the aggregate job creation target, five “jobs drivers” have been identified which have the potential for creating jobs on a large scale. These jobs drivers are (EDD, 2011):
 - Infrastructure
 - Main economic sectors
 - New economies (including the green economy and knowledge intensive sectors)
 - Investing in social capital and public services
 - Spatial development

Numerical targets for job creation have been set for each of the five jobs drivers. As the NGP framework documents highlights, two of the key variables affecting the achievability of those targets are the rate of economic growth and the rate of employment growth relative to the rate of economic growth (EDD, 2011). More specifically, the rate of output growth required to reach the employment creation target of five million jobs by 2010, depends on the relationship between employment growth and economic growth.

This component of the project has two broad objectives. Firstly, we hope to use the rubric of employment intensity and growth outlined in the NGP (EDD, 2011) to assess and understand the output growth implications of the job creation targets set in the NGP. Secondly, we will attempt to provide some indication of the skills implications of the employment targets in the jobs drivers.

⁶Gauteng, Kwa-Zulu Natal, Limpopo Province and the Western Cape.

2.3. SETA LABOUR MARKETS⁷: A PRIMER FOR SETA PERFORMANCE IMPROVEMENT

Whilst there is heterogeneity in the performance of the SETAs, and much has been written in terms of a clear policy strategy to improve the performance of SETAs, arguably the area of labour market information and intelligence has been under-appreciated. There can be no doubt that the quality of the information and analysis produced by most SETAs has been sub-standard. This information has found its way into Sector Skills Plans and a range of other formal channels – in a bid to define and reflect on the skills strategy of the given labour market which the SETA operates in. Invariably though, this information has been drawn from official statistical sources such as the Labour Force Surveys, Quarterly Labour Force Surveys, Quarterly Employment Survey and so on. These surveys are a key source for providing *nationally representative labour market aggregates*. Hence, if one wants measures of the national unemployment rate; the total number of employed by SIC-categorised sector and so on – these surveys are designed precisely for this use. However, they are *not* designed for estimating more detailed labour market aggregates. In particular, they are not useful when for example, attempting to provide information on skills and the demand for and supply of skills at the SETA level. Hence estimating the nature of labour market dynamics within a particular SETA labour market is not within the empirical and analytical grasp of the official labour market surveys. Instead, as we argue below, what is required is an independent, separate survey of a SETA's labour market on all issues relevant to skills and human resource development. This survey would then form the basis of a far more nuanced analytical understanding of the workplace skills challenge across the SETA universe. It would also, perhaps more crucially, suggest a more optimal set of policy interventions required for both DHET and the relevant SETA.

In terms of this sub-theme 3, we would argue that the following could be a research work programme:

- Firstly, that the aim within this theme is to work towards providing the DHET, SETAs and all other relevant stakeholders with a regularised, statistically robust and analytically sound *SETA labour market information system* which informs accurate and detailed skills planning and provision.
- To engage with at least one, if not two, strong SETAs to produce a representative SETA labour market survey. The survey would need to be either of firms and/or of individuals within the relevant SETA's labour market. Every phase of such a new survey, including questionnaire design, survey sampling, piloting and so on – would need to be factored into this phase.
- The results from the survey would then be analysed under this Theme, with the idea that it would represent the first such empirical overviews of a SETA Labour Market. This would necessitate the production of a SETA Labour Market Report, which could then be accompanied by range of complementary products such as a Policy Brief and an Skills Indicators dashboard (including for example, Placement Index, an Occupational Shortage Index and an Employability Index for the SETA).
- The proposed SETA Labour Market Profile report could then be workshopped with other SETAs, with a view to encouraging them to also running these SETA labour market surveys within their local labour markets.

Ultimately though, the view taken here, is that the labour market information system of SETAs is grossly inadequate. Furthermore, in order for effective and optimal policy formulation around workplace skills and SETAs it is essential that a much improved labour market intelligence is provided to DHET. Through such SETA labour market surveys under this theme, this intelligence can and

⁷ A *SETA labour market* is defined here as representing all individuals and firms operating within the human resource, institutional and legal parameters of the SETA.

hopefully will be provided to DHET. In aiming then to complete at least 1 or 2 additional SETA Labour Market reports under this theme, we believe that these new SETA labour market profiles could become the key decision-making instrument for both the SETA and DHET in improving the functioning and performance of the SETAs.

2.4. EMPLOYMENT CREATION THROUGH THE INFORMAL SECTOR: A NATIONAL SKILLS PLAN

In most of the current discussions around appropriate and effective sectoral growth paths, including those dealing with industrial policy and public investment, there is a tendency to treat the informal sector as a residual in this debate. However, it remains true that South Africa has dual problem with respect to the informal sector: On the one hand the economy records one of the smallest informal sector estimates (as a share of employment) for a developing country. Secondly though, given the sheer scale of the unemployment problem, informal sector must be central in any growth-employment discussion in South Africa. Ultimately, it is only through the rapid growth and development of the informal sector that the significant numbers of the unemployed can be reduced. This sub-theme takes the above view of the informal sector as its starting point, and proposes to develop a research programme focused on understanding how the provision of appropriate skills to the micro-enterprise sector can possibly improve both the performance and growth of microenterprises in South Africa.

The elements of the research within this sub-theme would then involve the following components:

- An empirical overview of the skills constraints within the micro-enterprise sector. For example, do we find that language skills, business skills, marketing skills and so on feature as a predominant reason for SMMEs not performing and growing in South Africa? These questions will be answered using available public data such as the Finscope and Small Business Project (SBP) surveys.
- A second component of the project would involve examining the barriers to entry faced by the microenterprise sector to securing public sector tenders. Public sector procurement, is possibly the largest purchasers of goods and services in the economy, served by the BBBEE framework designed to incorporate and grow black business. Whilst admirable in intention, the policy has yet to reach those in the informal economy and formal micro-enterprises. This research project proposes to examine precisely what these barriers to entry are to the SMME sector, focusing in particular on whether skills constraints operate – to deny access to these business opportunities.
- Based on the analytical evidence, we finally propose in this sub-theme, to assess through a pilot Randomised Control Trial (RCT), whether the provision of skills to a sample of microenterprises does improve performance and growth of the firms. We propose to design a mini-experiment, wherein a skills set (financial literacy, business leadership, marketing skills and so on) is provided to one sample of SMMEs and not to another. These so-called treatment and control groups will then be re-examined after a specified period, to determine whether the skills provision intervention had any impact on the growth and performance of the affected SMMEs.

Whilst the above remains a nascent area of research, we would argue strongly that understanding and appreciating the issues relevant in the SMME-skills nexus, remains a vital part of any strategy designed by DHET to engender growth and employment in the domestic economy.

3. A NOTE ON DATA

The data sources implicitly and explicitly proposed for this Theme are many and varied. They range from official statistics released by Statistics South Africa (SSA) to unofficial small sample surveys as well as administrative data run by government departments.

The data includes for example:

- Numerous waves of the Labour Force Survey (LFS), starting in September 2000 and ending in September 2011. These are bi-annual, rotating panel, surveys conducted in February/March and September each year and all data are self-reported. Data in the different waves can be individually analysed or pooled and treated as repeated cross sections over time. The LFS covers approximately 30,000 households in each wave.
- The HSRC's Graduate Pathways Survey (GPS) noted above is a unique panel dataset tracking over 2000 attendees of HEIs in South Africa. The dataset covers a broad range of areas, including variables measuring personal and household level characteristics, socio-economic status, school and HEI attended, as well as information on employment such as earnings, occupation, and sector.
- The NBI's 19-FET College (reconstructed) panel dataset will also prove useful. The survey was run in 2003 and then 2009, with a total sample of about 1200 individuals. The surveys contain information on all the typical variables such as students' demographic characteristics, education levels, household income and parental education. There are also several more unusual variables, including ratings of the quality of teaching at the university, the quality of the practicals offered, whether one is interested in one's studies, as well as how well the university has dealt with language problems.
- The Finscope and SBP data to date, remain relatively unexplored, as they are not easily available for public use. The data are firm-based and focused on microenterprises. The data for FinScope, known formally as the Finscope Small Business Survey, was conducted in 2010, and consists of 5676 face-to-face interviews with business owners. The objectives of the survey were to describe the size and scope of the small business sector and to identify development and financial needs of different segments to use as a baseline for later intervention. It also aimed at looking into the levels of financial inclusion and to determine what barriers existed in this sector. The SBP survey was completed in 2011. The SME Growth Index Survey provides information on South Africa's SME sector, exploring factors impacting on their capacity to expand and create employment. The survey's coverage is SMEs with 10 to 49 employees, in the manufacturing, business services and tourism sectors. It surveys those factors viewed as relevant in shaping small firm performance and success.

Finally though, and perhaps most crucially, we propose here (as noted above) that this project consortium as a whole should pursue the idea of a SETA Labour Market firm survey on at least 2 existing SETAs. The idea would be that this survey would have the following elements:

- It should be a representative sample of firms and/or individuals operating within the domain of the SETA's labour market.
- The instrument would have detailed questions on skills, skills constraints, skills shortages and possibly even informed projections of future labour demand.
- An internal (HSRC) expert reference group would design the survey and questionnaire(s) as well manage and oversee the logistics of the survey.
- An external, specialist survey company would be contracted to complete the survey from the pilot phase to the data entry and quality control phases.
- High-level buy-in from the Minister of Higher Education and senior business leaders should be sought to ensure high response rates from firms and the cooperation of the relevant SETAs.

- It is possible to conceive of an external partner to co-operate with the HSRC on this. For example, the World Bank and the ILO have significant external human capacity to work with the consortium on this project.

CONCLUSIONS

It is clear then that at the heart of the South African employment challenge, lies the need for high levels of sustained, pro-poor economic growth. In trying to deal with only one sub-component of this challenge – skills – this brief document has outlined a proposed set of research questions which we hope fulfill two criteria: Firstly that they enable an improved understanding of the role played by sectors and human capital institutions in the growth process. Secondly, that we will hopefully improve our appreciation of the centrality of skills provision and the improvement of skills to this sector-growth nexus. Finally, and perhaps most importantly, that the results of all components of this research lead to an improved and optimal policy agenda for DHET, to ensure that skills provision is improved in a manner which growth-enhancing.

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