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LMIP WORKING PAPER 5

Towards a Generic Survey of Labour Market Information in South Africa

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LABOUR MARKET
INTELLIGENCE PARTNERSHIP

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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 researchers 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**
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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	
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ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

Researchers globally have noted the limited supply of comparable data at the level of the firm. In South Africa, beyond the limited firm level studies, there is also a general shortage of firm level demand side data. There are concerns about high unemployment and debates about unfilled job vacancies and scarce skills. This leads to attempts to remove impediments to labour market participation and to improve knowledge of and access to information on job openings. The implication is that recruitment practices and skills needs and development, and the factors influencing these at the level of the firm become critical. Until now, such questions have been addressed largely by using aggregate or cross sectional data which is often not current and continuous. This paper investigates the current state of South African firm level studies. It is evident that divergence in when studies were researched and written and variation in research agendas and approaches hinders the understanding and tracking of the progress of our multi-faceted and volatile labour market. Furthermore, previous attempts to implement firm level surveys have shown the declining response rates and lack of continuity. The paper also looks at international experiences with regard to firm level surveys in order to highlight successful experiences and effective practices. The study then suggests three possible options: 1) Strengthening workplace skills plans; 2) Launching a ''matched' employer-employee survey in South Africa; or 3) Conducting regular employer surveys to complement already existing data sources in order to address the gap in demand side data.

INTRODUCTION

"The contrast between data available on the supply side of the labor market and the demand side is striking. No national probability samples exist for industrialized countries at the establishment level which can be used to characterize the microeconomic choice processes of firms in a fashion analogous to the way in which the choice processes of households and individuals can be characterized" Handbook of Labor Economics (Stafford 1986, in Millward, 199:203).

1.1. STUDY BACKGROUND

The ILO describes labour market information (LMI) as *"Any information concerning the size and composition of the labour market or any part of the labour market, the way it or any part of it functions, its problems, the opportunities which may be available to it, and the employment-related intentions or aspirations of those who are part of it"* (Thuy et al. 2001: 57). In narrower terms, LMI is synonymous with data about the '*supply*' (people available to work) of and '*demand*' (jobs available) for labour within a labour market (Ministry of Training, Colleges & Universities, 2005). In order to get a comprehensive understanding of the labour market in a given economy, it is therefore important that both components - supply and demand - are thoroughly investigated to support macro policies. However, globally, the high volume of research into the supply side of the labour market in contrast to the paucity of empirical studies on the demand side is evident and has been noted by various scholars (Hamermesh, 1991, Osberg, 1995; Holzer 1996, Bhorat and Lundel, 2002, William, 2004).

The importance of LMI to the efficient functioning of labour markets has increased with globalisation (Woods and O'Leary, 2006). Economic globalisation, together with shifting workplace composition and technological advances all have strong repercussions on labour markets (Karoly and Panis, 2004). Labour market changes triggered by such forces result in new skill requirements, obsolescence of qualifications, alteration of skills and competence, and emergence of new and hybrid occupations (Williams, 2004).The realisation that timely and focused information on labour markets is imperative to improve their efficiency has precipitated many countries into overhauling their labour market information systems. The South African Department of Higher Education has acknowledged this priority through commissioning the Human Sciences Research Council (HSRC) to carry out the 'Labour Market Intelligence Project'. This paper, which will contribute to the theme 'establishing a foundation for labour market systems,' will evaluate the extent to which LMI data, particularly demand side data on the labour market, collected though employer surveys, is fit for purpose in South Africa. The main aim of the paper is initiate discussion on possible ways of securing firm level demand side data.

Traditionally, LMI is obtained from different sources. These sources include but are not limited to: (i) *household labour force surveys*, which collect data on employment, unemployment and hours of work; (ii) *enterprise surveys,* which largely gather information on employment, earnings and hours of work; and (iii) *administrative* sources, which are mainly used to compile unemployment, job vacancy and labour dispute statistics (OECD report, 1997). Key labour market indicators are frequently generated from a blend of complementary data sources signifying a need for investing in diversified LMI sources as is the case in countries with well-developed labour market systems

The ILO report of 1998 described labour market information in African countries as fragmented and limited in scope, with incomplete indicators as they are collected infrequently or are outdated. South African labour market data equally suffers from some of these deficiencies. It has been described as uncoordinated, inconsistent and sometimes insufficient to address some key labour market questions.

Studies on the South African labour market have been criticized for largely focusing on factors determining the supply of labour, with very few studies focused on subject of skills. This has partly been driven by the available data based on household surveys as produced by Statistics South Africa. These studies have indeed yielded excellent data and insightful results on the determinants of participation, employment and earnings in the South African labour market. Clearly, a more integrated labour market model would also need to examine the contribution of intra- and inter-firm dynamics in shaping the domestic labour market (Bhorat and Lundell, 2002). It has been observed that studies of firm level behaviour in South Africa have not usually included a focus on issues relating to training and skill formation (Bhorat and Lundell, 2002); instead such information is collected on an ad hoc basis. In fact, in South Africa, interest in data on training rates and skills dynamics was spurred by the introduction of the Skills Development Act (1998) and the Skills Development Levies Act (1999). Bhorat and Lundell (2002) remark that such information is not only important for the assessment of the impact of legislation, but it has the potential to stimulate further analysis and debates on the dynamics of skill in relation to enterprise development.

1.2. RESEARCH PROBLEM

Researchers in developing countries have noted the limited supply of objective, comparable firm level data (Hallward-Driemeier, 2001). In South Africa, over and above limited firm level studies, there is also a shortage of firm level demand side data. There are concerns about high unemployment and debates about unfilled job vacancies and scarce skills, targeted interventions for previously disadvantaged persons and communities being high on the agenda in the attempt to remove impediments to labour market participation and to improve job search skills, alignment of skills required by employees and skills possessed by (potential) employees, and access to information on job openings. In this context, recruitment practices, skills needs and development and factors influencing all these at firm level become critical. Until now, some of these questions have been addressed largely by using aggregate or cross sectional data which is often not current and continuous. Employment data collected through Statistics South Africa is also available though in aggregate form, thus constraining the types of research that it can be used for. Firm level studies provide a wealth of data which can be used by graduates, the unemployed, career planners, and even business itself. They do however require long term committed project funders, extensive planning in terms of key objectives which in turn influences study methodologies, and strategies to facilitate participation by firms in such studies.

Against this background, this paper will specifically:

1. Focus on the challenges of existing *firm level demand* side data
2. Set out the *state of the art*, summarizing the focus and methods of current research conducted in South Africa,
3. Draw *comparative insights* from the experience of other countries,
4. Propose *what further research* is required

Before taking stock of firm level studies, in particular those collecting demand data, the next section examines the practical and theoretical rationale of firm level labour market information and its

implications for constructing an employer/firm survey. This is necessary in order to understand the scope of demand side labour market information in South Africa.

1.3. THE MISSING LINK - LABOUR MARKET DEMAND SIDE DATA

The first question is, what should be the essential ingredients of the demand side of the labour market system? Wilson (2009) remarks that such information stems from three key components: present and future skills needs, recruitment and business practices, training and investment. Woods and O'Leary (2006) offer a more elaborate list of indicators that includes: number of jobs (occupational, industry, employment projections) as measured by density estimates, job openings and replacement demand. These indicators are frequently found in a variety of sources containing LMI. The next section looks more closely at some of these indicators.

Job openings: Vacancies are regarded as an indicator that an employer is working towards recruitment and are used to measure unmet demand in the labour market (William, 2004). Different countries adopt various methods of measuring this unmet demand. In the United Kingdom (UK) for instance, these are largely measured through the Vacancy Survey which asks businesses to indicate their vacancies, skill levels required and whether they are short term or long term (Williams, 2004). The Netherlands, on the other hand, uses the Colo Barometer which is a quarterly report on the availability of work and placements providing data on standard LMI such as the exact location of vacancies and popular fields in which most students are registered.

The job offer process: In its simplest form, hiring can be dubbed a simple fixed linear process - job advertisement; review resumés; interview candidates; prepare the employment offer. However external forces such as technology, enterprise growth, the legal environment, and an increased demand for qualified workers all impinge on the hiring process (Williams, 2004). Only a handful of studies investigate the job offer process; but it is irrefutable that firms apply varied search processes to seek different types of workers. Devine and Kiefer (1991: 302) note that since it is unlikely that an unemployed person will reject a job offer, 'variation in unemployment duration arises primarily from variation in the likelihood of receiving offers'. It is therefore possible that studies of the setting of reservation wages have been over-emphasized at the expense of studies of the processes by which companies award offers (Osberg, 1994). One strategy for dealing with high unemployment is to enhance the worker/firm matching processes. Cutting unemployment is the main reason for the existence of public employment agencies, such as Canada's Employment Centers and the South African Department of Labour's Public Employment Services. The success of these interventions depends on the thorough understanding of why and how firms make decisions about recruitment and search.

In 2003, Williamson and Cable surveyed companies to investigate their hiring practices. Results showed that most companies took network ties as well as the social prestige of the applicants into consideration in deciding whether to make a job offer. That means firms to tend to hire applicants from their reliable networks. Such a study could yield interesting result in the South African context where monitoring and evaluating firms' appointments are partly framed by affirmative policies. Furthermore, in the South African content, studies assessing the effectiveness of Affirmative action policies in improving employment outcomes of minorities such as previously disadvantaged individuals or females are still required. Frijters (1999) conducted a study in a South African clothing firm to explore the hiring and firing of weekly paid workers. The data drawn from the personnel files contained information on the productivity of current workers, and the characteristics of rejected applicants and fired workers. Characteristics which were screened out at entry and those that influence productivity were identified. Hiring decisions were found to be consistent with expected

productivity. The actual productivity of African workers in this firm was found to be significantly lower than the productivity of workers of other ethnic backgrounds. Such dynamics make studies encapsulating employers' rationalization of job offers important, particularly in the South African context.

Pierra and Scarpetta (2004) noted the ongoing debates about the effects of labour market policies, specifically hiring and firing regulations, on workers' and firms' behaviour. On the positive side, state regulation is justified by the need to protect workers from arbitrary actions and to provide some stability in employment. Furthermore, stringent hiring and firing regulations can force firms to invest more in their workforce. On the negative side, stringent protection of workers can lead to higher labour costs, and also reduce the job creation capacity of the firms (Pierra and Scarpetta, 2004:01). This might also "reduce firms' ability to cope with a rapidly changing global economy" and miss out on opportunities offered by new technologies and access to new markets". Aron et al. (2008) argue that South Africa's labour legislation is too rigid given the high rate of unemployment and labour market segmentation. Bhorat et al (2002) associate the rigidities of labour legislation with the costs to employers of complying with wage and benefit standards, and with the legal and procedural requirements of hiring and firing employees. According to these authors, this 'hassle factor' has contributed significantly to South Africa's low employment level (Bhorat et al. 2002: 47). This finding was confirmed in a study which found that a majority of South African firms are reluctant to increase the number of people they employ, due to the negative impact of the country's labour legislation (Godfrey et al. 2007).

Matching skills and jobs is gaining importance as unemployment rises and difficulties increase for people entering the job market. The mismatch between skills possessed by workers and skills demanded by employers has often been seen as a root of structural unemployment. The economic assumption is that business cycles trigger imbalances between labour supply and demand. The CEDEFOD report of 2010 makes it clear that the challenge of skills mismatch is central in the context of ageing populations, resulting in the exodus of experienced workers, and the changing skill requirements in the knowledge economy. The extent to which aggregate unemployment results from a 'mismatch' between skills possessed by workers and demanded by employers can only be explored through a comparison of the demands for skills by employers with the data on the qualifications of potential workers (Williams, 2004).

Future skills needs and shortages: Skills are seen as part of a link between people and competitiveness and therefore understanding of how organizations perceive and manage skills demand is critical (Constable and Touloumakos, 2009). Some evidence shows that UK firms tend to rely on reactive approaches to sourcing, recruitment and retention. A study by Finegold and Soskice (in Constable and Touloumakos, 2009) showed that employers preferred to 'live off the labour market' (i.e. recruit from the labour market), than invest in it. This kind of approach clearly discourages investment in human capital. Generally, low training rates have been attributed to lack of commitment to skills investment by employers due to a number of reasons, for instance fear of poaching leading to the avoidance of training in transferable and soft skills. Furthermore, small and medium enterprises are more likely to under-invest in skills development for reasons such as failure to identify immediate return on investment, increasing informality of training, the need to focus more on short term survival, and limited finances as compared to large businesses.

Clearly, questions on the demand side have implications for policy as important as the more widely studied supply issues. The demand for older workers, the impacts of technical change and international competition on the distribution of employment, and job creation should be motivating research on the demand for labour in much the same way that interest in income maintenance programmes was an important spur to research on labour supply in the 1960s and 1970s. Wilson (2009) argues strongly that in principle, employer surveys can be used to try to measure all of these

elements. However it is true that are limits to what can be achieved by a purely survey based approach. This section has attempted to look at the theoretical framework and its policy implications and at the importance of collecting survey data. The next section shows how firm level demand side data is collected in other countries.

INTERNATIONAL FIRM LEVEL SURVEYS: EXAMPLES OF GOOD PRACTICE

The case studies of employer surveys as reflected in table 1 have been drawn from Turkey, the United Kingdom (UK), Australia and Canada. In 2011, the UK launched a country wide employer skills survey under the auspices of the UK Commission for Employment and Skills (UKCES) bringing together four surveys that were previously carried out separately in each constituent nation: the National Employer Skills Survey for England (NESS), the Scottish Employer Surveys (SESS), the Northern Ireland Skills Monitoring Survey (NISMS), and the Future Skills Wales Sector Skills Survey (FSW). These have been cited separately in this paper as the UK stands out as the country where the production and frequency of employer surveys is particularly noteworthy. The UK has had a long tradition of data collection and analysis and a solid statistical infrastructure and thus offers many models from which to learn. Canada is acknowledged for its best LMI system in the world, its Workplace and Employee Survey, a dual survey in which questionnaires are administered to employers and employees, offers useful lessons on firm level surveys.

The research objectives pursued, methodologies employed, data users, project funders, and frequency of data collection vary among countries. Though the studies under review were all concerned with employers' perception of skill deficiencies and workforce development, the different employer skills surveys in the UK were specifically geared to providing a detailed analysis of the extent, incidence and nature of employers' recruitment problems and skills gaps (Wilson, 2009). In the surveys reviewed questions were not limited to the difficulties in filling vacancies because of skill shortages, the nature of skill shortages, whether employers foresee a need to upskill, the extent of training and impact assessment, satisfaction with further education (FE) colleges, Higher Education Institutions and other providers of training and workforce development and (in the English NESS) employer expenditure on training and development. They all have a strong focus on skill shortages, skills gaps and training. It is evident that most of the projects were not developed on the basis of a strategic plan. Rather they were developed in response to the needs of project stakeholders.

The British Workplace Employment Relations Survey (WIRS) was initially conceived at the end of the 1970s to provide data about the labour relations structures and practice in Britain. The Canadian Workplace and Employee Survey (WES) was also developed to provide a comprehensive view of predominantly employer issues such as choice of technology, innovation, labour turnover and business strategies and predominantly employee issues such as wages, training, technology use, working hours and other workplace activities, as well as overall questions such as training and development and human resource practices. The Turkish labour market and skills needs survey is however oriented towards eliciting employers' assessment of educational output and of the quality of VET graduates and apprentices (SVET report, 2006). Some of the research agendas are narrow. For instance the Australian Institute of Management national survey was purely focused on getting manager's views on the workforce skills gap and on finding out how their organizations were responding to the challenge.

An interesting example highlighting the importance of the development of comprehensive databases containing labour market information is the Asian database covering Indonesia, Korea, Malaysia, the

Philippines and Thailand. Such a model involves developing common indicators on labour market activity that could be used in different countries to facilitate regional and international comparisons. Even though surveys are conducted independently on the member countries, comparable research instruments are employed.

Table 1: Examples of international firm level surveys

Survey	Funders	Year	Frequency	Methodology	Survey Content
Labour Market and Skills Needs Survey (Turkey)	SVET, Labour Market Team, ISKUR (Turkey Employment Organisation).	2005		Coverage: national survey - private sector firms and public organizations) Target group: all firms with more than 9 employees. Observation units: establishments Sampling frame: SSK register, Sample: 6103 companies selected. Response rate: 5651 companies Mode of data collection: Face-to-face interviews	Topics covered include: -problems in filling vacancies with qualified staff -labour mobility at company level: degree hiring of employees by companies as well as degree of outflow -assessment of the economic situation and economic perspective by companies within their sector -skill problems of existing staff -actions to train their employees -assessment of VET graduate qualities -Assessment of the value of apprentices and interns for companies.
Northern Ireland Skills Monitoring Survey1		annually		Target group: All establishments with at least one employee, Sampling frame: established through the Office for National Statistics (ONS), Based on the Inter-departmental Business Register (IDBR) counts. Total businesses in Northern Ireland as 57,800, with 723,000 employees. Response rate: 55% which is slightly lower than that of NISMS 2005 (70%). This compares favourably, however, with the 45% response rate achieved for Scottish Skills 2008 and the 35% response rate for NESS07. Total completed: 4,000 interviews,	Topics covered include: -difficulty finding suitably skilled new recruits to fill vacant positions; -numbers of vacancies unfilled because of skill-shortages among applicants in each of the major occupational categories; and skills that are in short supply. -recruitment and quality of young people coming straight from higher education; -numbers of employers facing skill deficiencies; - numbers of and which employees that are affected; the nature of the skill challenges; -the extent to which employers develop the skills

[1] Dobbins (2009)

				Mode of data collection: computer-aided telephone interviewing (CATI) technology. Target persons: the most senior person at the site responsible for human resource and personnel issues.	and assess the skill needs of their workforce.
Scottish employer skills survey	Scottish Government. Education Analytical Services Division. Future skills Scotland	2002, 2003, 2004, 2006, 2008, 2010	Repeated cross-sectional study	Observation Units: Institutions/organizations Population : Employers in Scotland Sampled by geography, (11 Scottish Further Education Funding Council Areas); sector (6 Sector Skills Council key industry groupings); and size (7 employment size categories) Number of Units: 6,274 businesses Method of Data Collection: Telephone interview; survey used Computer-Assisted Telephone Interviewing (CATI) software Sampling frame: Inter-Departmental Business Register (IDBR)	Topics covered include: Recruitment, vacancies; skill gaps; training; and recruitment from school, college and university. it focuses on the following issues: the importance of skill-related issues compared with other challenges facing employers; the types of jobs in which skill shortages and gaps are most and least prevalent; the causes of skill shortages and gaps, their consequences and employers' response to them; and The nature and extent of training paid for by employers.
British Workplace Employment Relations Survey2 (WERS)	The survey is jointly sponsored by the Department of Trade and Industry, the Advisory Conciliation and Arbitration Service (ACAS), the Economic and Social Research Council and the Policy Studies Institute3.	It has been undertaken five times: 1980, 1984, 1990, 1998 and 2004. Fieldwork for the sixth WERS (WERS6) is underway to be completed mid 2012.	Repeated cross-sectional study	Population: All establishments in Britain with five or more employees Observation units: establishments Target group: establishments with over 25 employees. Respondents: Senior managers, employee representatives and employees. Coverage: national Mode of data collection: face to face with managers and employee reps using CAPI, additional self-completed manager's questionnaire on workforce composition & financial performance, self-completed questionnaire for employees. Sample: in 1990, 3009 census units from	Topics covered include: -Management of personnel and employment relations •Recruitment and training •Consultation and information •Employee representation •Payment systems and pay determination •Grievance, disciplinary and dispute procedures Equal opportunities, work-life balance

[2] It was first carried out as the Workplace Industrial Relations Survey (WIRS) in 1980

[3] Felstead (2009)

				population of 142 282 firms. Response rate: from 75% in 1980, to 83% in 1990. Type of survey: Linked employer-employee data Data Collectors: National Centre for Social Research; Office for National Statistics	•Workplace flexibility •Workplace performance •Employee attitudes to work
Canadian Workplace Employer-employee Survey	Statistics Canada	between 1999- 2006	Annual (currently inactive)	Target population: all businesses in Canada4 Observation units: workplace for the employer sample, employee at the workplace as the unit of analysis for the employee sample. Mode of data collection: In 1999, workplace data collected in person. From 2000, computer assisted telephone interviews were conducted. Response rate: Since 2006, approximately 5800 to 6700 firms interviewed each year, and between 16000 and 24 000 employees interviewed. Sample frame: business register of statistics Canada. Type of survey: Linked employer-employee data.	Topics covered include: Competitiveness, innovation, technology use and human resource management on the employer side, and technology use, training, job stability and earnings on the employee side. WES will shed some light on what triggers hiring and separations, actual and perceived job stability, which employees use particular technologies and how it affects their skill requirements and pay, and how employee compensation and human resource practices relate to firm performance.
National Employer Skills Survey (NESS) of England	UK Commission for Employment and Skills, Skills Funding Agency, BIS, the Alliance of Sector Skills Councils	2003, 2004, 2005, 2007 and 2009.	Now part of UK ESS	Observation units: Institutions/organisations Mode of data collection : telephonically using computer-aided telephone Interviewing (CATI) technology. Target population: human resource	Topics covered include: The incidence, density and number of vacancies experienced, including those caused by insufficient levels of skills qualifications and work experience amongst applicants The incidence, density and number of current staff

[4] with the exception of a) employers in Yukon and Northwest Territories and employers operating in crop production and animal production; fishing, hunting and trapping; private households and public administration (Statistics Canada report, 2001).

				managers Response rate: 41 % slightly lower than for NESS05 and NESS03 (43% & 42% respectively) Sample size: sample sizes were between 72,000 and 79,000 interviews for each of these surveys. Data collectors: fieldwork undertaken by three research agencies,	not fully proficient in their jobs The level of training activity being undertaken by employers The amount spent on training by employers
Irish Employee Training and Skills Survey5	Central Statistics Office (CSO)		Annual survey	Observation units: Sampling frame: CSO Central Business Register Target group: All firms with more than three employees Sample: 8383 for 2006 survey Realised: 4209 firm level interviews and 51 252 employee respondents. Response rate: 50% Survey type: postal survey	Topics covered include: Training provision, duration of training, cost of training, skills shortages, reasons for skills shortages, skills in need of upgrading, refereed means of dealing with skills gap, and employee methods of acquiring skills.
Asia's Corporate Crises Survey: In Indonesia, Korea, Malaysia, the Philippines and Thailand	Samples were designed in collaboration with national state statistical agencies of different countries, with technical assistance from World Bank.			Observation units: Coverage: sectoral composition differed across countries but were selected from key manufacturing sectors in each country: electronics, textiles, garments, food processing, chemicals, machinery, and auto parts. Target group: all firms with 20 or more employees in the selected sectors. Sample: Realised: 4000 (about 650-690 from each country).	Topics covered include: Productivity, firm structure, financial position, employment practices, investment and technology acquisition.

[5] Dobbins (2009)

Partnerships and collaboration in funding studies

Mongozho (2003) strongly argues that coordination and collaboration, and involvement of social partners in the generation and use of LMI are a prerequisite for success in establishing efficient LMI systems. Such involvement is said to create a culture of joint responsibility and long term commitment to the success of the project. The analysis of the table above indicates multiple funding of projects, with a number of stakeholders over and above the policy makers funding the projects and having an interest in the data gathered. The Turkish survey is a joint project of the SVET project[6] and ISKUR (the employment services organisation) and it provides LMI to Ministry of National Education and ISKUR and a number of stakeholders and social partner organisations and associations (SVET report, 2006). The Scottish Employer Skills Survey is sponsored by the Scottish government's Education Analytical Services Division, whilst the NES was supported by the UK Commission for Employment and Skills, Skills Funding Agency, BIS, and the Alliance of Sector Skills Councils. The WES in Canada is conducted by Statistics Canada and Human Resources Development in Canada. Therefore in most cases, projects were funded in partnership with external bodies such as funding agencies and policy makers.

Study units of analysis

In most of the surveys, the 'employer' was used as the unit of analysis and was defined as an establishment (an individual site) rather than enterprises or organizations. In such cases enterprises could be represented in the survey by more than one of their sites in the sample. Definitions of sector and size of establishments however differed. In studies like the Canadian WES, an employee survey excluded some sectors such as firms in crop and animal production; fishing, hunting and trapping; private households and public administration (Statistics Canada Report, 2001). The British WIRS excluded agriculture, forestry, fishing, coal mining, and the armed forces. Moreover, sample composition across studies (in terms of firms eligible for inclusion by size) varied considerably. The Labour Market and Skills Needs Survey sample included only firms with more than nine employees. This was because of the expectation that smaller companies will have different skills problems to medium and larger firms (SVET report, 2006). The British Workplace Employment Relations survey on the other hand included all firms with the exception of those with less than twenty-five employees across all sectors. Very small firms were perceived to be lacking formal institutions and practices that were of concern to the survey. English and Scottish surveys on the other hand surveyed all firms with the exception of single person establishments across all sectors. That is the position adopted by the UK Employer National Skills Survey.

Comprehensive and coordinated official business registers for use as sampling frames

An important feature in Canada and the UK is the existence of comprehensive firm databases. All UK studies use the interdepartmental business register (IDBR) as the sampling frame for the studies. Even though access to this database takes longer to obtain compared to commercial databases and some telephone numbers of firms are missing, the IDBR is described as the most comprehensive and accurate database of large businesses in the UK, giving nearly 99% coverage of UK economic activity (Purdon and O'Connor, 2008). It covers most businesses with the exception of some very small businesses (self-employed and those without employees and low turnover) and some non-profit making organizations. The IDBR list is maintained by the Office for National Statistics (ONS), and is used by government for statistical purposes. This business register is based on three administrative sources: 1) businesses registered for Value Added Tax (VAT) purposes; 2) employers operating a Pay as You Earn (PAYE) scheme; and 3) incorporated businesses registered at Companies House. The Canadian WERS however relies on the business register of Statistics Canada as the sampling frame.

[6] The project "Strengthening the Vocational Education and Training System in Turkey" (SVET) is a five-year project (2002-2007) that results from an agreement signed between the European Commission and the Government of Turkey .

In some countries, the absence of a credible business register is evident. For instance, it was a challenge to get a comprehensive sampling frame for the Turkish skills needs survey. After investigating the usability of several databases such as the Ministry of Finance business registry and BAGKUR, TUIK and TESK, they opted for using the social and security systems (SSK) business register even though it also had serious sectoral code deficiencies (Dobbins, 2009).

The existence of a comprehensive business register is often bolstered by the full exploitation of records of labour administration systems. According to Mongozho (2007), administrative records can contain rich information that is underutilized, especially in countries with few resources to allocate to regular data gathering exercises. Barnes et al. (2007:12) define administrative data as 'data collected for administrative purposes and not primarily intended for research or statistical purposes'. Such data has a long history in such countries as the UK and formed the basis for traditional statistical information. One of the benefits of using administrative resources is the reduction of the response burden placed on individuals and businesses by surveys.

In the UK data collection is almost always outsourced. The British WES study is conducted by the National Centre of Social Research, whilst other UK studies employ private research agencies to collect and analyse data. For the UK studies, data collection methods are based on Computer Assisted Telephone Interviewing (CATI).In Canada fieldwork was centrally managed by the ISKUR head office.

Frequency of data collection

The frequency of data collection feeding onto the various studies tends to vary from annually, as with the UK and Canadian studies, to those that occur every four to five years. The Canadian study is the only one that never skipped a year. On the other hand, information around the frequency of the Turkish study could not be established; therefore it was treated as crossectional. However, it is evident that Turkey also relies on the monthly labour force survey, the 'turkstat', on national employment and labour force participation data, even though this source does not have an occupation and skills focus. This further highlight the importance of diversifying LMI where no one survey can address all labour market questions. Note that a host of national employer surveys were conducted specifically in Britain between 1980 and 2004 such as the 1987 Employer's Labour Use Strategies Survey (ELUS), 1991 Employers Manpower and Skills Practices Survey, 2002 Employer's Workplace Policies in an Environment of Change, 1996 Survey of Time Off Work for Family Responsibilities to name a few. Apart from the Canadian WES, Canada also collects data through other means such as Survey of Employment, Payrolls and Hours, and the National Graduate Survey. This emphasizes that sometimes one source of LMI is not enough to provide all the answers.

Matched employer-employee datasets

A number of studies have begun to use quantitative skills surveys in combination with other methods to collect information on skills needs, surveying both individuals and employers (Felstead et al. 2002). Apart from Canada and the UK, a number of other countries such as US, since 1999, have noted the benefits of linked employer-employee surveys. Most of the studies in table 1 were simply employer surveys, where the most senior person on site was the target person interviewed. This was usually the human or personnel resources manager. In the Canadian WES, data is collected from three sources, i.e. senior manager on site or at the establishment level; trade union representative, plus employees. This resulted from the realisation that two key elements were missing in the understanding of firms' performance and worker outcomes in Canada: the determinants of how well firms respond to change, and getting information from both employers and employees. The former can only be properly investigated in a longitudinal setting covering a variety of their characteristics and behaviours related to performance. The latter is significant because it makes it possible to get data about both the supply and demand side of the labour market which enriches studies focused on either side (Krebs,Patek, Picot and Wannell, 1998).

In British WIRS and Irish Employee Training and Skills Survey, interviews were held with the site managers and employees. Such dual surveys clearly bring a wealth of information as the analysis of the events is not only informed by the characteristics of the establishment, as is the case with other firm surveys. With the linked employer employee surveys, the analysis is also influenced by the characteristics of the employees. The main purpose of the Irish employee training and skills survey for instance was to provide more structural information on workplace issues, including skills and training, earnings and factors influencing earnings (Dobbins, 2009).

Krebs et al. remark that research problems that were previously considered from the supply side of the labour market, through the human capital model, could be viewed from the demand side of the labour market through such linked employer employee surveys (Kreb et al. 1998). Further, it is clear data on worker characteristics has been poorly measured in firm surveys, which is a disadvantage because worker characteristics are important determinants of the behaviour of the firm. With the matched employer employee data, it is possible to allow the level and distribution of wages of individual workers to be associated with events taking place at the firm level such as adoption of new technology. The link also allows for firm level variables such as extent of training, workplace practices such as quality circles, fringe benefits, distribution of wages and others to be better measured than when using ordinary employer surveys, as workers can provide more detailed data on such variables than can the firm level respondents, thus reducing reliance on supply side theories and data. This has been argued by Krebs et al. (1998).

These authors however assume that the real benefits would be the extent to which studies focus on dynamics and start to show the association between change in the establishment practice and outcomes for the worker or establishment. Even though the sample design becomes more complicated because of having to decide whether to make the establishment or the employee the basic unit of analysis, the longitudinal establishment survey is always preferred. This is because it then becomes possible to investigate the effects of establishment practices on the worker or firm outcomes. The results in the Canadian WES pilot study for instance showed that most establishments that implemented computer based technology training affected workers, but that this was not through the formal aspect of the training, but through informal and on job training as indicated by the workers themselves (Krebs, Picot and Wannell, 1998). This indicates that the need for and the main benefit of the linked employer employee surveys is to find out whether firms are indeed doing what they report. It is evident that innovative 'matched' employer-employee surveys such as the Canadian WES and the British WIRS give more subtle and revealing results than ordinary employer surveys.

The Canadian WES used two questionnaires. The employer questionnaire contained questions on workplace characteristics (e.g. full time, part time, seasonal, recent hiring and separations, and unfilled vacancies), compensation, training, human resource function, collective bargaining, establishment performance, business strategy, innovation, technology use and use of government programmes (e.g. tax provisions, use of grants). The employee questionnaire contained questions on job characteristics, requirements when hired, hours of work, pay and benefits, leave, promotions, technology, training and others. Osberg (1994) commends such a methodology and refers to it as a 'key informants approach'. This approach acknowledges that key respondents can only be asked about broad features of workplace organization pertaining to their own experiences at the organization level and that it is necessary to cross check responses afterwards for consistency.
Improving response rates: through compulsory participation and involvement of business

Across different countries, the response rate to surveys tends to be high, ranging upwards from 40%. As in most cases data is collected telephonically, this is a remarkable achievement. The British WIRS of 1990 for instance completed a total of 3009 employer interviews yielding a response rate of 83%, marking an increase from the previous 75%. In 2005, the Canadian WES collected data from 6693 out of 7864 sampled firms. The author argued that the only firms that did not respond were either

out of business, seasonally inactive or outside the scope of the survey (www.statcan.gc.za). Turkey also achieved a high response rate of 5651 companies from the 6103 in the sample. The high response rate could be attributed to various reasons. There are other surveys taking place in these countries, yet the employers are still cooperative. In countries such as Canada, the response rate is higher since it is mandatory for all businesses in the sample to complete the interviews.
In the UK the pronounced role played by employers' associations in surveys into skill deficiencies and human capital development is evident. 'Employer bodies' or representatives from business were even significant players during development and review of instruments for skills monitoring. This is also the case with the Canadian WES, where business representatives are invited to attend the project evaluation workshops.

Concluding comments
This discussion indicates that a one size fits all approach does not work because though LMI systems have similarities, varied study objectives are tailored to address and respond to issues of concern in the various countries. Moreover, even though the UK studies for instance share a number of similarities as to study objectives, survey design and sector coverage, making direct comparisons across the surveys is a challenge because of timing, given that vacancies are sensitive to economic cycles (Wilson, 2009). Clearly matched employer-employee surveys are expensive and require considerable technical expertise to execute successfully. Some of the lessons and challenges presented by research on skill needs are that the time dimension is very important as some skills are in continuous flux, and consequently short term. It is therefore advised that a survey be repeated frequently, at least annually, and that it be held during the same period every year. Lag between data collection and analysis and publication of results should be minimal (Colombo, 2009). To avoid time lag and keep up with following rounds of data collection CATI or web based interviews are often perceived to be the most appropriate data collection tool.
A number of lessons could be drawn from the above analysis: 1) the need for innovative methods to collect firm level data through linked employer-employee surveys; 2) use of diversified sources of LMI; 3) development of institutional support for LMI through ensuring that there are multiple users of information; 4) importance of developing databases; 5) use of administrative records; 6) implementing strategies for ensuring a better response rate to firm level surveys. The next section examines the state of firm level studies in South Africa.

CURRENT STATE OF FIRM LEVEL STUDIES IN SOUTH AFRICA

In South Africa, cross sectoral firm level data is very limited with a few exceptions. The history of firm level studies, particularly on skills development, can be traced back to the NTB/HSRC 1985, 1989 and 1991 studies on work place training. The next table however concentrates only on studies from 1999, and does not claim to be exhaustive. The selection is however skewed to those studies whose data was widely analysed and cited. The argument that demand side issues of the labour market are inferior to the supply side issues holds in the South African context. However revival of and investment in national employer or firm level study might demonstrate the potentially significant role of labour market demand side data through improved understanding of the labour market. So far, full commitment in terms of resources to fund a long term employer survey focusing on the demand side of the labour market is lacking.

Table 2: Examples of South African firm level studies

Survey	Funder	YEAR	METHODS	FOCUS AREAS
The World Bank/Greater Johannesburg Metro Project: the Large Manufacturing Firm Survey	World Bank	2000	**Sample** :352 **Scope**: Johannesburg only **Sectors**: manufacturing **Firm size**: only firms with over 50 employees	Topics covered include: Corporate finance; exchange rate and policy; labour regulation and implicit costs; availability of skills: difficulty in finding skills, vacancy rates, worker training (type, magnitude), licensing and regulation.
National Enterprise Survey	World Bank	1999	**Sample**: 1407 **Scope**: national **Sectors**: manufacturing and services **Firm size:** no limit	Topics covered include: firm characteristics; gender participation; access to finance; annual sales; cost of inputs/labour; workforce composition; bribery, licensing; infrastructure; trade, crime; competition; capacity utilization; land and permit;, taxation; informality; business-government relations; innovation and technology; performance measures.
Small Business Project (SBP)		2004	**Sample**: 1304 **Sectors**: all sectors (agri businesses excluded)	Topics covered include: Impact of regulation on small and medium businesses; labour regulations and their relationship with employment and investment; trade regulations; permits and licences for businesses; visa regulations; the predictability of regulatory application; costs of regulation.
World Bank investment Climate	World bank	2004	**Sample**:800 **Scope**: firms from major metropolitan areas in Gauteng, Western Cape, KwaZulu-Natal and Eastern Cape. **Sector**: manufacturing, construction and retail and wholesale trade.	Topics covered include: Survey includes data on firm productivity; cost of doing business; regulatory environment; labour market; financial sector; trade regime and levels of investment.

National skills surveys	Department of Labour	2000, 2003, 2006, 2009	**Sample 2003**: 678 small and medium enterprises (plus 87 very small). **Sample 2009**: 203 **Sector coverage**: All sectors with exception of enterprises in public services, local govt, water and related services, diplomacy, intelligence, defence and trade. **Scope**: national	Training delivery modes; skills needs; training standards; underdeveloped skills; occupations in need of skills upgrading; factors increasing propensity for training; training infrastructure; relationship with SETAs; claiming of levy grants; training rate; expenditure on training; training access and quality; claiming of levy grants. For 2009 study, questions seeking to measure impact of training were introduced.

In 1999 the World Bank, with the Greater Johannesburg metro, concluded an interfirm analysis of trade, technology and employment amongst employees. The sample comprised only manufacturing firms within the Greater Johannesburg metro. Firms within this area make up 40% of South Africa's large manufacturing firms, translating to about 42% of formal manufacturing employment (Chandra et al. 2001). The study showed that in all firms the racial composition of employees displayed clear numerical biases against historically disadvantaged individuals (HDIs) in the more highly skilled occupations (Chandra et al., 2001: 40). In the most highly skilled occupations fewer than 20% (managerial) and 30% (professional and technical) of posts were held by HDIs, whereas the least skill intensive posts (plant operators and labourers) were, at more than 90%, dominated by HDIs. It was also difficult for these firms to find suitably qualified individuals in the more skill intensive sectors, both those mentioned above, and service related skills such as accounting, marketing, financial, legal and even craft trades (Daniels, 2007).

Also, in 1999, the World Bank initiated the National Enterprise Survey (NES) among firms of all sizes in the manufacturing and services sector. It covered 941 manufacturing firms nationally (Edwards and Behar, 2006). This study investigated the investment behaviour and perceptions of entrepreneurs with regard to a range of issues including crime and social issues, government economic policy, labour regulation, interest and exchange rates and others (Gelb, 2001). The enterprises survey questionnaire asked questions on firm characteristics, gender participation, access to finance, annual sales, cost of inputs/labour, workforce composition, bribery, licensing, infrastructure, trade, crime, competition, capacity utilization, land and permits, taxation, informality, business-government relations, innovation and technology and performance measures.

Bhorat and Lundall (2002) analysed the results of the NES. About 35% of all firms surveyed (894) identified 'inadequate skills' as their key reason of dissatisfaction with firm productivity. When disaggregated by sector, 24% manufacturing firms said this was the most important reason why they are dissatisfied with their productivity. When disaggregated by firm size, about 65% of the surveyed firms with over 200 employees cited skill deficiency as a problem; amongst those with 100-199 employees, about 30%; those with 50-99 employees, about 5%. Only 1% thought skill was a problem in firms with less than 50 employees (Daniels, 2007). The two main limitations mentioned in the NES survey, are that it used only four occupation groups: managerial/professional, skilled/artisan (technicians, welders), semi-skilled (machinery operators) and unskilled (labourers, security guards), and that it did not contain any measurement item on wages.

The HSRC has conducted four successive national skills surveys (NSS). In 2000 it published a report on a baseline survey of industrial training in South Africa (Kraak, Paterson, Visser & Tustin, 2000). This was followed by a report on the first full-scale National Skills Survey (Paterson, McGrath & Badroodien, 2005), which was a survey of skills development in 2002/03, and a report on NSS2007 (Paterson, Visser & Du Toit, 2008), which was a survey of skills development in 2006/07. The NSS2007 report devoted a chapter to comparing skills development in small, medium and large enterprises in 2002/03 and 2006/07. The NSS2010, a survey of skills development in 2009/10, was designed to continue the trend analysis of the 2007 survey and to investigate additional aspects of skills development. The broad aims of the studies were to investigate the state of skills development in South Africa, and to contribute to longitudinal analysis of trends in this area. This commitment was however not fully realised as NSS 2009/10 had a very low response rate, which made it impossible to perform some statistical analyses due to the probability of margin errors.

Other smaller scale firm level surveys include the SEDA clothing and footwear survey of small enterprises. This study examined challenges facing small, medium and micro enterprises (SMMEs) within the textile, clothing and footwear industries. Twenty-one firm-level interviews were undertaken during February and March 2008 in the Western Cape, KwaZulu-Natal and Gauteng. The questionnaires covered areas such as ownership, firm performance, market conditions and firm competitiveness, investment and technology, education and skills, access to finance, government support incentives and policies, business objectives and growth, and perceived opportunities facing the sector. Findings showed that although the sector can offer entry-level jobs for unskilled labour, low levels of education and skills pose a serious challenge for innovation. Despite this, nearly half the firms in this sector spent nothing on training in 2007. Furthermore, a significant number of firms are unwilling to claim from the skills development levy, even where they qualify. Combined with other factors such as lack of awareness of government support programmes and difficulty in accessing finance, skills and educational development challenges were perceived as a barrier to the development of the sector.

Van Seventer (2002) noted that firm surveys in South Africa are conducted on an ad hoc basis, rather than long term or systematic. This is true, with the exception of the HSRCs National Skills Survey which has been implemented every three years since 2000. The World Bank Investment Climate is also longitudinal; however it is not purely focused on collecting demand side labour market data. Though the declining response rate to the survey should be noted, it has been the only long term or continuous project that can enable policy makers to track the training patterns of South African firms.

Evidence on employer surveys in South Africa, though exploratory, suggests the following caveats:

Limited scope: In South Africa, enterprise surveys have predominantly focused on issues such as investment conditions and the impact of HIV/AIDS (Paterson et al., 2003), and tend to be limited in scope because of exclusive focus on priority sectors.

Lack of commitment to a long term firm survey could also negatively impact on employers' perceptions about participation in the studies. With a continuous project, the research organization is able to build rapport over time with potential employer participants and eventually get their support. Reliable continuous funding is important: for a few studies it was obtained from donor organisations such as the World Bank (e.g. NES and WB/GJM), and the NSS was made possible through funding from the Department of Labour.

The increasing resistance among enterprises to responding to surveys as witnessed in NSS 2010 is of concern. From a total of 8,732 enterprises reached by telephone to establish willingness to participate, only 220 completed questionnaires, yielding a 2.5% response rate. In 2003 2.9% of unsuccessful calls were due to refusal on the part of enterprises to participate in the NSS. Four years

later in 2007 the refusal rate had risen to 27.1% of unsuccessful calls, yet the same methodology was followed in both years (Cosser et al. 2012). The success of the World Bank Enterprise Survey in South Africa is also evidence of the importance of partnerships with industry in executing surveys. The World Bank Survey is carried out in partnership with business organizations and acceptable response rates are maintained. Clearly, formal relationships need to be developed with business if employer surveys are to be nurtured in South Africa.

Low response rates are evident even among employer surveys, even those conducted by SETAs (Table 3). It should not however be assumed that a higher response rate equals relevant or quality data. The point is that employers themselves, in the form of employer associations like BUSA, need to be engaged from conceptualisation to rolling out of projects. If they feel part of the study, given that they have contributed, or even helped shape the research instrument, it would be unlikely that they would refuse to participate in the study. This is one of the lessons that could be learnt from the UK where employer associations are key stakeholders in such projects.

With regards to data collection, face-to-face collection of data appears most effective. In the NES and Small Business Project for instance, private companies were hired to collect data through face to face interviews. The NSS however, which has experienced a steep decline in responses, adopted a postal survey methodology and in 2010, questionnaires were emailed to potential respondents. It is clear that face to face methods of collecting data still guarantee better returns of completed questionnaires in the South African context.

Given the cross sectional nature of the studies, it becomes almost impossible to compare results due to the varied methods and measurement concepts used, thus hampering further analysis. Kreb, Patak, Picot and Wannell (1998) note the difficulty in establishing the timing of the introduction and dissemination of workplace practices, and the time lag before they impact on workplace performance. This means that even though there is a relationship between firm practice and performance it becomes difficult to infer precise causes. Moreover cross sectional studies already eliminate those firms that have closed down due to the introduction of particular practices. Such challenges could be addressed by panel studies where a cohort of workplaces is followed over time. Additionally, the composition of samples can be varied. For instance the World Bank/Greater Johannesburg metro study only studied the manufacturing sector and firms were stratified in three categories: small, with 50-99 employees; medium, with 100-199 and large, with 200-10000. In NES firms were stratified on the basis of sectors and two employment size categories, that is, small, with 0-50 employees and large, with above 50 employees, and, in the case of the small firms, also by location. This highlights the different measurement and coverage options.

Lack of in house database: Paterson et al. (2005) lamented the lack of a comprehensive and up to date database of enterprises to facilitate the creation of comprehensive sample frames. The sample for NES was selected from a ‘universe’ of over 40 000 firms constructed from two separate databases purchased from commercial marketing agencies. The lists were derived from credit agencies, and included all firms which have used or applied for credit from financial institutions (Gelb, 2001). Thus data had to be bought to create the sampling frame for the project, in contrast with the practice in various other countries where a centralized database of employers paying tax exists and is accessible. For the national skills survey of 2003, the SARS database was used as it was deemed the most efficient. For NSS, ideally, the SETAs would have provided the sample frame. But the datasets made available by the SETAs were not all of sufficient quality or comparability and hence could not be used. The SARS database was unlikely to include 100% accurate records of all enterprises. Nevertheless, it was the most comprehensive and accurate sample frame of private enterprises available. The original database numbered 436 087 enterprises. However, more than half the enterprises on the database were inactive and it had to be refined by removing the records of all enterprises that were estates, had been de-registered, could not be traced, or had closed down. Eventually only 103 277 enterprises were left on the list.

Though studies such as the national skills survey, NES and GJMA have robust and varied data on the incidence of training, it has become clear that continuous measurement and monitoring of resources invested in training would yield a more reliable measure of training (Paterson et al, 2005). This lack of clarity is also due to a very broad definition of training making it impossible to obtain real training volumes. Badroodien decried the reliance on percentages of firms participating in the levy system as a measure of enterprise training. This is because of low percentages of firms claiming back the levies. (Badroodien, in McGrath, Badroodien, Kraak and Unwin (2004).

In general, South African firm level studies suffer from the same limitations as other international surveys. Divergence in timing and variation in research agendas and approaches hinders understanding and tracking developments in the volatile labour market. Large numbers of firms enter and exit markets every year (Scarpetta et al. 2002) and the exclusive focus on existing firms means that those that are defunct are not accounted for and that reasons for closure such as bankruptcy cannot be determined. Data on reasons for firm exit in South Africa are significant because of the existence of a very high percentage of small companies and the fact that they are regarded as vehicles to curb unemployment. It is therefore concerning that they are not accounted for in most studies.

The quality of data derived from these studies is however unquestionable. Though the National Enterprise Survey only targeted the manufacturing sector, and had a limited sample, the data was nonetheless rich and has been used to generate academic debates as well as enabling some innovatory analysis of the labour market (Bhorat and Lundell, 2002). Though the data series are difficult to compare, The Development Policy Research Unit (DPRU) is the one organisation in South Africa that has taken advantage of these existing datasets to investigate firm behaviour. Exhausting existing data before embarking on collecting new data is a practice that could be adopted by other organisations with an interest in LMI. Secondly, DPRU is one of the few organisations actively interested in projects on inter-firm analysis and this has offered significant insights on various critical labour market issues. Why is this so? Is it because of the limited availability of the skills required to perform such statistical analysis? If so, this points to a need to increase and nurture a pool of researchers in labour market analysis. Part of doing that is through making firm level data available to young and upcoming researchers in the field.

3.1. SETA FIRM LEVEL STUDIES

Kraak (2004) remarked that the Skills Development Act (SDA, 1998) was successful in establishing a single national regulatory framework consisting of the National Skills Authority and 25 sectoral education and training authorities (SETAs). That is, the workplace skills plans submitted by firms link the firm level to the sector level. This mediating role of the SETA between micro (firm) level data, sectoral aggregation via the sector skills plans, and national aggregation has been underutilized (Daniels, 2007). This indicates that SETAs are best placed to be collecting data from the employers within their respective sectors. But unless such SETA employer surveys are centrally coordinated, they are unlikely to provide a consistent and comprehensive source of labour market information that can be useful in for instance anticipating general skill needs across all sectors.

Table 3 below reports some firm level projects that have been carried out under the auspices of various SETAs. It is evident that the extent to which research is prioritised and carried out varies across SETAs. Though across the board most are interested in profiling their sectors, in terms of a better understanding of the challenges and skills needs facing firms in their sectors, it is clear that this research cannot be compared because of the varied study objectives and methodologies applied.

Table 3: Seta firm level studies

SETA	PROJECT	YEAR	METHODS	FOCUS AREAS
W AND R	Profile of non-levy paying enterprises			
	Skills audit	2003	Firm level survey	Sector skills profile, training, skills in the sector, skills need, scarce and critical skills
MQA	Scarce and critical skills	2006	Employer survey	Scarce and critical skills
MAPP	advertising sector skills needs analysis		WPS, employer survey, focus groups with employees, interviews with education and training providers	Employment trends, skills need, training
FIETA	Furniture manufacture skills development project	2003	Employer survey	

One would expect that data requests to firms from SETAs would be responded to urgently. However, SETA studies experience the same difficulties as other firm level studies. In the MAPP SETA project prepared by Kelello Consulting in 2005 the data collecting team experienced a number of challenges as highlighted in the report. The database of companies supplied by the SETA for sampling purposes was contaminated. About 15% of the companies on the list were no longer in the sector. Some companies reported that they had no interest in completing the survey, whilst some reported that they would not participate and refused to provide any reasons. Other companies reported that they had no awareness of the SETA or had experienced frustrations in dealings with it and therefore did not want to participate in the survey. Some firms had gripes because of failed attempts in trying to contact the SETA, whilst others, cited the lack of tangible short-term gains as a reason for non-response. All this cautions researchers not to assume that participation in levy grant schemes will guarantee firms' participation in studies undertaken by the various SETAs.

CONCLUDING COMMENTS

LMI is expected to fulfil a number of requirements including accessibility, comprehensiveness, timeliness, regularity, scope and coverage, and accuracy (Sparreboom, 1999). Given the paucity and deficiency of firm level data in South Africa, how do we correct the situation? Given the considerable response burden associated with firm level surveys, does South Africa need to implement a new generic firm or employer survey geared towards collecting demand side data or can current methods of collecting information be strengthened? Clearly, in South Africa, labour force surveys will remain the principal vehicle for labour market data, and this has been supplemented by data collected by SETAs through workplace surveys and other surveys such as skills audits. However, it is irrefutable that these were initially intended as statistical sources for purposes other than the one at hand. Moreover so far research in this field in South Africa has mainly covered priority sectors.

Furthermore, lack of coordination between data producers and users, incomparability of data sources, and resource constraints characterize South African firm level studies. In a context where matching skills and jobs is gaining importance with rising unemployment and increasing difficulties for people entering the job market, there is a clear need for data describing their needs collected from firms themselves. According to the CEDEFOD report (2010), persistent skills mismatches in a country can inflict real costs on individuals, enterprises and societies. This is because well-educated employees may be stuck in low level jobs, while the undereducated or under skilled are paid more

than those who are better educated, and are therefore unlikely to leave the organization. Low wages and inability to use their skills appropriately may lead to mismatched individuals suffering from low job satisfaction. Employers may suffer from lower productivity, and the economy may suffer from loss of output. Investigating the dynamics of skill creation and destruction is therefore central to understanding mismatch driven cycles. Such an exercise of monitoring skills mismatches through a longitudinal study is critical when there are targeted interventions of continuous training to ensure that workers are being trained and their skills developed in relevant fields. Furthermore it is critical to study the role of training and obsolescence, and how this may affect different parts of the economy, particularly vulnerable industries such as those under intense international competition.

Committed funders of research projects of this nature are non-existent in the South African context. International studies have shown the benefits of different institutions funding projects. Table 1 below provides an example of different users of LMI and their informational needs. Funds for continuous projects could therefore be secured through inviting some targeted users of LMI to support projects gathering and supplying data of their interest.

Table 4: Specific users of LMI and their Informational Needs

Targeted Users		**Information needs**
Policy makers with responsibility for the following:	Fiscal and monetary policy	General labour force statistics such as population, labour force, unemployment, participation rate, wage rates, productivity, etc.
	National, regional and local economic development	General labour force statistics, industry specific labour force information, and occupational labour supply.
	Government budgets	Demographic trends, labour force trends and composition.
	Labour market programs	Projected occupational and skill shortages, industry-based training programs, labour market information for specific groups such as women, youth, immigrants,
	Educational programs	Demographic trends; the number, types and location of educational institutions and vocational institutions, funding levels and tuition fees.
Employment Service Agencies	Public Employment Services staff	Job vacancies, job seekers, changes in skill and occupational requirements, career prospects in various industries and occupations, and education and training programs related to employability skills.
	Private vocational guidance and career counsellors	
	Staff at educational and vocational training institutions	Labour market trends, skill requirements of the economy, technological change, programs offered by other institutions, and education attainment.
Labour Market Participants	Firms (Employers)	Number of job seekers, the skill composition of the workforce, training program costs and benefits, productivity, wage expectations of job seekers, labour market standards, health and safety regulations.
	Workers (Employees and unemployed individuals)	Job vacancies, educational and skill requirements of the job openings wage and benefit levels, working conditions, collective agreement settlements, labour regulations, social security programs.

Persons out of Labour Force	Students	Occupational information, information that relates school subjects to specific occupations and careers, information on interests, abilities related to each occupation, current and future skill requirements of the labour market, education and training programs, tuition fees and student financial assistance programs, career counsellor services
	Non-students	Labour market trends, government welfare programs, career counselling, educational and training programs, information on interests, abilities related to each occupation.

Source: CSLS in Sharpe and Qiao (2006:11).

Even though studies such as the National Skills Survey were endorsed by the government, participation was voluntary and response rates low. This is similar to employer surveys where non-compulsory participation at times results in low response rates in spite of being endorsed by the SETAs organising them. This points to the paradoxical tension between the ethics of conducting research and the stringent measures that need to be put in place to ensure better cooperation from business. International experience has shown the benefits of collaborating with social partners in the production of and use of LMI. Close relations particularly with industry are a prerequirement for success in implementing firm level studies. This might in turn yield three further benefits:1) improved response rates, 2) funding opportunities and 3), opportunity to launch of comprehensive study largely focused on collecting demand side data. This would enhance the availability of data on factors such as skill needs, skill mismatches, firm job offer process to name a few. Such information could be used by policy makers, employers, skill providers and job seekers; and would bring a number of benefits such as improved career choices and matching process thus eliminating some barriers to employment.

WAY FORWARD

The data collected by Labour Force Survey and SETAs will no doubt continue to be important data sources, but when precise data are required, we will have to be more innovative in order to get better data. Three options can be deduced from the existing state of firm level data in South Africa:

- Strengthening workplace skills plans
- Launching a 'matched' employer-employee survey in South Africa
- Conducting regular employer surveys to complement already existing data sources

Putting efficiency aside, intuitively, strengthening the already existing processes of collecting data would be most cost effective way of ensuring the collection of comprehensive data. The current comprehensive firm level data collection instruments are, as mentioned above, the workplace skills plans and annual training reports collected by the SETAs. But the SETAs need to take major strides to improve the efficiency and usefulness of information collected. One of the requisites of a functional LMI system is that it should provide current and updated information in the context of dynamic labour markets. South Africa also needs more current information to address the country's changing skills needs.

If the workplace skills plans are deemed insufficient, then more direct measures or indicators will have to be added to current instruments. The danger with this is that the instrument might become longer and lead to organizations being even more reluctant to complete it, even if mandatory to do so. If the plans are to be strengthened, the following will have to be considered:

- Reviewing the instrument - the workplace skills plan
- Standardising indicators and measurement items
- Creating a functional and centrally coordinated information management system
- Developing a common and credible database for sampling frames
- Enabling SETAs to conduct an audit of informal and unregistered companies

As it stands, South Africa has a wealth of LMI collected through household surveys. What is missing is the employers' voice in labour market debates. Also, data is not available on inter- and intra-firm labour market dynamics. Furthermore, international models have shown the benefits of understanding the association between labour market changes and demand side pressures, which are attributed to global competition, and technological changes through matched employer-employee surveys (Krebs et al.1998). Collecting such data is expensive and several years of data are required for full research capacity. However, some trade-offs will have to be undertaken in order to obtain accurate and timely data for analysis and policy formulation. Table 5 below depicts a conceptual frame adopted for the Canadian Linked Employer-employee Survey. As can be seen from the table below, such a study makes it possible to collection of wealth of data from both employees and employers.

Table 5: Desired outcomes of efficient firm level surveys

Firm level characteristics	**Worker characteristics**
Workforce characteristics Job organisation Technology implemented	**Age, gender, education**
Operating revenues	**Occupation, management responsibilities**
Expenditure, payroll & employment	**Work history/tenure**
Business strategy Innovation	**Family characteristics** **Membership in designated employment equity groups**
Unionisation	**unionisation**
Compensation	**Use of technology**
Training provided	**Participation in decision making**
Fulltime/partime/contract/temporal staff	**Pay and benefits**
Organisational change	**Training undertaken**
Subjectivity measures of e.g. productivity, profitability	**Work schedule/arrangement**
Type of market in which firm operates	

Source: Adapted from from Krebs,Patek, Picot and Wannell (1998) and Picot and Wannel (1997)

In shaping such a study the survey's goals and objectives will have be thoroughly clarified. Project objectives will influence questionnaire content, frequency, sampling procedures, the cost of the survey, and the selection of data collection techniques. Launching an independent survey would also mean further requests for participation from firms. Proper planning and involvement of business during the inception of the study should ensure better participation by firms. Moreover, because of the predominance of large enterprises in the samples, measures should be put in place to ensure that sampling is done in rotation so that firms are selected in turn and that they get 'research breaks'. Mongozho (2003) remarks that finding the niches of the various stakeholders, closer cooperation and sharing of resources by different users and producers of LMI can definitely lead to the enrichment of a country's labour market system.

Another cost effective way of collecting data is to conduct frequent surveys complementing data collected through the labour force surveys and SETAs. Without doubt failure to take advantage of existing data leads to excessive expectations of one single source. This option avoids straining a limited number of available data sources. Moreover, this option would also ensure a flow of relevant recent information collected through regular surveys. The design of the study will also have to take into consideration the challenges of collecting data from firms such as survey overloading of large enterprises and the need for functional, coordinated and up-to-date lists of businesses. The main challenge is to improve our LMI systems so that data sources complement one another thereby reducing the response burden on businesses.

It is evident that there is an imperative need for more demand side data to support labour market policy development. This is coupled with a need for more empirical studies that go beyond assumptions and concretely demonstrate the outcomes of training and skills development. Finally, there is no single ideal method but there certainly is an ideal approach: that is, to combine different methods and to analyse results in combination with those from the widest possible range of statistical sources, surveys and studies. Firm level surveys should therefore not be seen as a panacea but as one of a variety of tools. This is the context in which the collection of demand side labour market data takes its proper, and highly significant, place.

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