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An Assessment of Labour Market Information Systems in Southern Africa

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Abstract: This paper examines the role of information systems in relation to employment and labour policies in southern Africa. Three functions of information systems are distinguished: the description function, the monitoring function and the evaluation function. It will be shown that the role of information systems has often been limited to the description function, which signifies an important mismatch between information and policies. Reducing this mismatch not only requires additional resources for data collection, but also more attention for appropriate institutional arrangements for information systems and the structure of labour markets in southern Africa. This is illustrated with a case study of the development of information systems for skills policies in South Africa.

Résumé: Cet article examine le rôle des systèmes d'information en relation avec les politiques de l'emploi et du travail dans le Sud de l'Afrique. Nous distinguons trois fonctions liées aux systèmes d'information: la fonction de description, de contrôle et d'évaluation. Il sera démontré que le rôle des systèmes d'information a souvent été réduit à la fonction descriptive, ce qui dénote une importante disparité entre l'information et les politiques. Réduire cette disparité nécessite non seulement des ressources supplémentaires pour la collecte de données, mais aussi plus d'attention pour ce qui est des accords institutionnels appropriés en faveur des systèmes d'information et de la structure des marchés du travail dans le Sud de l'Afrique. Tout cela est illustré par une étude de cas sur le développement des systèmes d'information pour les politiques liées à la formation professionnelle en Afrique du Sud.

Introduction

Problems of unemployment and underemployment in southern Africa are of a structural nature. Most of the economies in the sub-region are unable to generate sufficiently high growth rates to absorb additions to the labour force in the formal sector. At the same time, formal employment at its present levels is limited to a small share of the labour

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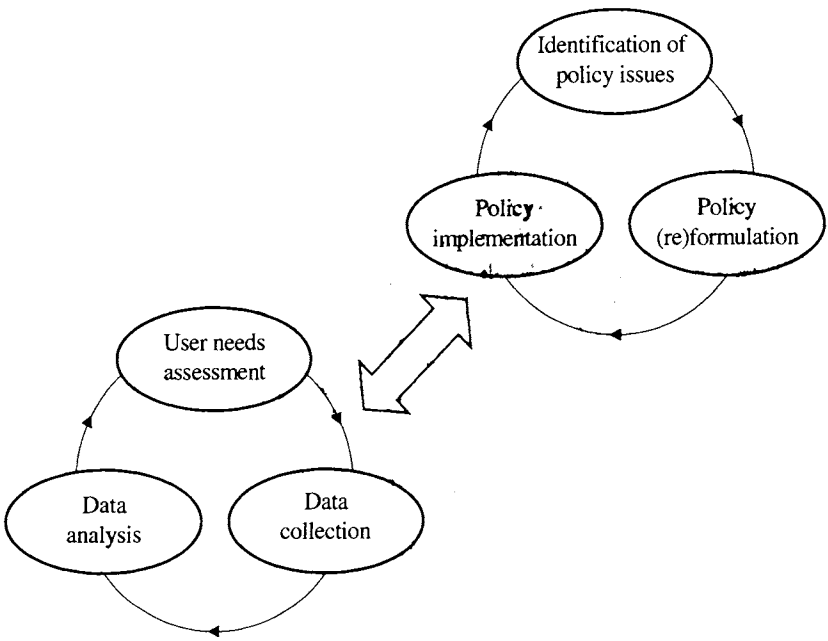
force in all but a few countries. The majority of the labour force continue to eke out a living in low productivity and low income survivalist-oriented activities in the smallholder or subsistence agricultural sector, and in the informal or micro-enterprise sector. Employment creation is therefore an objective of all governments in southern Africa, and is often linked to other objectives such as support to vulnerable groups and the reduction of poverty.

The translation of the objective of employment creation as well as related objectives into measurable indicators raises a number of issues concerning the production and use of labour statistics and other labour market information. This paper discusses how quantitative information such as labour statistics was used in relation to employment and labour policies in southern Africa during the 1990s. It first briefly sets out the functions of labour market information systems (LMI systems), and then provides an overview of the performance of these functions in the context of southern Africa. It will be shown that these functions were often performed poorly, and are hampered by a number of structural factors. Improving the performance of LMI systems will often require additional resources, but also more attention to the question of which information is needed and how this information is going to be used in relation to employment and labour policies. These issues will be illustrated in a brief case study of South Africa. In this country the development of information systems for particular labour market policies, namely skills development policies, was started towards the end of the 1990s.

Policies and information systems

Relevant information systems produce information that is used by employment and labour policy decision makers. What relevant information entails is related to the stages of the policy cycle, which are shown on the right-hand side of Figure 1 (the identification of policy issues, policy formulation and policy implementation). These stages reflect the cyclical nature of policy processes. Policy issues are identified, and policies are formulated to address these issues. If policy implementation results in the achievement of policy objectives (in full), the need for particular policies may be reduced and adaptations may not be necessary. More realistically, existing policies need to be reformulated to better address certain issues, and a new cycle will be started.

Figure 1. The information cycle and the policy cycle



The activities constituting the systematic production of information are summarised in the information cycle on the left-hand side of Figure 1 (user needs assessment, data collection and data analysis).[2] Ideally, these activities are integrated with the stages of the policy cycle in such a way that adequate information is available for each stage of the policy cycle (Castley 1996). For example, an assessment of user needs may indicate

[2] A more comprehensive listing of the activities of LMI systems is as follows (adapted from Standing *et al.* 1996):

(1) to determine what information is required;
(2) to select the data needed to produce information;
(3) to ascertain the periodicity of information needs;
(4) to make trade-offs such as those between the timeliness of information, its reliability, and the cost of obtaining the data;
(5) to collect data using appropriate procedures;
(6) to process and store data;
(7) to analyse data and produce information; and
(8) to disseminate information.

the need for more information to identify policy issues, or the need for information regarding the effects of certain policies. New data collection exercises can be initiated for these purposes, or existing data collection programmes can be extended or adapted. The resulting data will be analysed to produce information, which can be assessed against the needs of users. In turn, such an assessment may result in changes in data collection programmes.

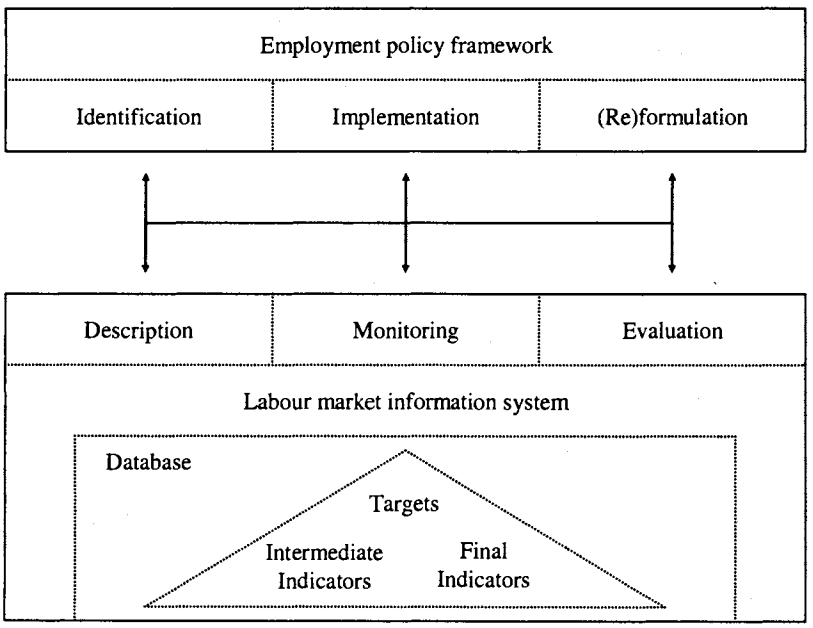
We will argue in this paper that the integration between the information and the policy cycle in southern Africa is far from ideal, which is the situation shown in the figure. The double-sided arrow indicates the need for linkage or integration of the two circles, but in practice each circle has its own dynamics. On the one hand, data collection and analysis are being undertaken, but these activities are only partially based on an assessment of the needs of those involved in employment and labour policies. On the other hand, various policies are being formulated and implemented, which are not necessarily supported by adequate information.

It is clear that in a region as diverse as southern Africa, the role of information vis-à-vis employment and labour policies and programmes will differ from country to country as well. The lack of integration between policy processes and information systems is more pronounced in some countries, and with regard to certain policies and programmes, than in others. However, a number of common constraints in the production and use of information in relation to policies in southern Africa can be identified, which hamper the execution of the functions of LMI systems.

Functions of LMI systems

In the previous section a distinction was made between three stages of the policy cycle. Accordingly, three functions of LMI systems in relation to employment and labour policies can be distinguished. These are the description function, the monitoring function and the evaluation function (see Figure 2).

Figure 2. Employment policies and the labour market information system



The description function is a basic or minimum function of LMI systems which facilitates the identification of policy issues. This function consists of describing, particularly in quantitative terms, labour market situations and developments. The monitoring function of LMI systems consists of tracking progress in the achievement of the objectives of employment and labour policies. Finally, the evaluation function consists of an assessment whether or to what extent the achievement of objectives can be attributed to policies. These three functions reflect an expansion and deepening of the activities of LMI systems in relation to employment and labour policies, and each function has implications for the production of relevant and specific information.

All functions involve the production of indicators, which can be stored in labour market information databases. Indicators can be broadly classified into two categories, depending on the extent to which indicators can be controlled by policymakers (Prennushi *et al.* 2001).

Final indicators measure the effects of an intervention on individuals' well-being, and are sometimes subdivided into outcome and impact indicators. The latter directly measure dimensions of well-being (e.g. indicators concerning literacy), while the former are closely related (e.g. indicators concerning access to education). Intermediate indicators measure a factor that determines an outcome or contributes to the process of achieving an outcome. Intermediate indicators can be subdivided into input and output indicators, depending on the stage of the process. Input and output indicators (e.g. spending on education and the number of schools, respectively), can to an important extent be controlled by policymakers, which is to a much lesser extent the case with final indicators.

In terms of employment policies, intermediate indicators concern the implementation of policies such as fiscal and monetary policies, investment policies including the development of export processing zones (EPZs), education and training policies, promotion of small enterprises, and direct employment creation in the public sector. Given the objective of employment policies, employment indicators are important final (outcome or impact) indicators.

Intermediate as well as final indicators can draw on sources of quantitative information such as administrative records (e.g. employment exchange records, education and training records and records concerning employment programmes), population censuses, household surveys including labour force surveys, establishment surveys and mixed enterprise/household surveys (the latter are used to collect data regarding employment in enterprises which are not covered in surveys of formal sector establishments). As mentioned before, employment policies are often linked to other labour market concerns, and the actual classification and importance of particular indicators are dependent on the policy or programme under consideration. This point will be discussed in more detail in the section on monitoring below.

The description function

The identification of policy issues can be facilitated through a situational analysis, i.e. a comprehensive description of the (national or sub-national) labour market in the economic context of a particular country. In a situational analysis, final indicators are reviewed which may point at

'undesirable' labour market situations or conditions. Whether a particular labour market situation is considered undesirable or not is ultimately a political decision, and not necessarily a democratic one. For example, the fact that black people are underrepresented in the better-paid segments of the labour market is a policy issue for the current dispensation in South Africa, but was a desirable outcome under the previous one. In democratic societies, public policy issues are identified in complex political processes, involving political parties, employers' and workers' organisations, lobby groups and so on. In southern Africa, the international donor community plays an important additional role in these processes.

A minimum set of labour market indicators for review in a situational analysis are the categories of basic labour statistics listed in Convention No. 160 (1985) of the International Labour Organisation (ILO).[3] The list should be seen as a minimum set in the sense that some categories of labour statistics have been excluded from the Convention (e.g. statistics on productivity). Furthermore, all categories of labour statistics can be broken down, as appropriate, by industry, occupation, status in employment and education; or by geographical area, sex and age. Such break-downs give rise to virtually endless possibilities for the compilation of labour market information databases and indicators for descriptive and other policy purposes.

Possible policy issues may be identified through comparisons of labour markets between regions, areas, labour market segments, etc. Accepted methodologies are therefore important for the production of

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[3] This Convention identifies nine categories of basic labour statistics, as follows:

(1) economically active population, employment, where relevant unemployment, and where possible visible underemployment;
(2) structure and distribution of the economically active population, for detailed analysis and to serve as benchmark data;
(3) average earnings and hours of work (hours actually worked or hours paid for) and, where appropriate, time rates of wages and normal hours of work;
(4) wage structure and distribution;
(5) labour cost;
(6) consumer price indices;
(7) household expenditure or, where appropriate, family expenditure and, where possible, household income or, where appropriate, family income;
(8) occupational injuries, and, as far as possible, occupational diseases; and
(9) industrial disputes.

a situational analysis. For example, measurement of employment, unemployment and underemployment according to international standards can assist policy advisors and decision makers in establishing whether unemployment is high or labour market performance should be regarded as a policy issue. Accordingly, a situational analysis may point to the need to formulate employment and labour policies, and identify target groups of policies and programmes using various breakdowns of data (data differentiations). Data differentiations or other activities aimed at better describing certain situations in quantitative terms can also be undertaken after particular issues have been identified in qualitative terms.[4]

Situational analyses of the labour market were produced during the 1990s in all countries in southern Africa, either with a view to formulating broader economic policies (e.g. in documents concerning economic reform programmes), or with a view to adopting single labour market policies and programmes. Taking information on the broader economic environment of the labour market into account as appropriate, such analyses drew on establishment surveys, household surveys and administrative records. All countries produced a range of administrative records, and in most cases at least one national labour force survey or other household survey, as well as a population census was available (see Appendix 1).[5] Furthermore, the majority of countries conducted establishment surveys, and in a number of countries information was available from mixed enterprise/household surveys.[6]

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[4] For example, attention gender issues has resulted in efforts to better capture the labour market situation of women in labour statistics. On the potential and actual shortcomings of labour statistics in relation to gender issues and gender policies see e.g. Mata Greenwood (1999), Elder and Johnson (1999).

[5] The exceptions with regard to the conduct of labour force surveys in southern Africa are Angola, Mozambique and Swaziland. The first two (lusophone) countries have experienced war and civil strife for a long period and information on labour markets in these countries is exceptionally limited, although the availability of LMI has improved in Mozambique since the beginning of the 1990s.

[6] In many countries in southern Africa at least one, and in some cases more than one, mixed enterprise/household survey was undertaken during the 1990s in the context of the GEMINI project. Growth and Equity through Microenterprise Investments and Institutions was a six-year applied research project of USAID, and various outputs and

Examples of undesirable labour market situations and developments in southern Africa which have often been identified are low employment growth in relation to growth rates of the labour force or the population; high levels of unemployment and underemployment; the role of certain labour market institutions or labour market legislation in relation to the labour market; the performance of the education and training system in relation to the labour market; and the labour market situation of women or black people.

Limitations of the description function in southern Africa

The quality of a situational analysis is limited by the availability and possible deficiencies in quantitative information. A number of limitations in producing a situational analysis that is adequate for the identification of policy issues therefore follow from shortcomings in data collection programmes and sources of information in southern Africa. Important among these are the limited coverage of administrative information as well as of establishment surveys in terms of the labour force, and the irregular conduct of household surveys and data collection with regard to the informal sector. Given these shortcomings, any situational analysis of labour markets during the 1990s was likely to draw on fragmented information, and more often than not depended on data which to varying degrees were outdated. An additional constraint at the sub-national level may arise when household surveys do not allow for appropriate disaggregation or differentiation in relation to policies or programmes.

The quality of a situational analysis is also limited by the extent to which it is possible to adequately describe labour markets in quantitative terms. In general, these limitations are less severe in the formal sector than in the non-formal sector (including the informal sector and subsistence agriculture). The first reason for this situation is because a situational analysis of the formal sector can draw on more than one source of information, including establishment surveys, household surveys and administrative records. The use of several sources provides possibilities to contextualise particular measurements, and will generally

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follow-up activities of this project have been used in employment policy formulation in many countries (see e.g. Liedholm and Mead 1998).

result in better situational analyses of the labour market.[7] Such possibilities are typically much more limited with regard to data on the non-formal sector, as data sources are mostly limited to household surveys and mixed enterprise/household surveys. Secondly, as will be discussed below, the applicability of the labour force framework is subject to certain limitations. These limitations are more difficult to overcome when employment levels in informal sector and employment subsistence agriculture are important.

The labour force framework, the major measurement device of the labour market which is used in household surveys (see Appendix 2), applies best to situations where the dominant type of employment is 'regular full-time employment' (ILO 1990). In these situations, it is possible unambiguously to classify working persons as employed, unemployed or outside the labour force. Structural labour market conditions in southern Africa are such that only a minority of the labour force are in regular full-time paid employment. The results from measurements of labour markets in southern Africa on the basis of the labour force framework in various household surveys are therefore generally subject to a certain ambiguity, and show a high degree of heterogeneity in terms of the characteristics of persons classified as employed, unemployed or outside the labour force.

Heterogeneity within the categories of the labour force framework can be made explicit through the use of appropriate data differentiations. As noted by the ILO, the development of labour force concepts with the aim of better capturing labour market situations has contributed to both this heterogeneity and the need for data differentiations:

> The general trend observed in the development of labour force concepts has been toward making the employed and unemployed categories as inclusive as possible, in order to deal with the diversity of types and degrees of economic activity of individuals in different national situations. The definition of economic activity to include certain non-market activities as well as all market activities, the priority rules and the

[7] The report produced following the 1995 Labour Force Survey in Mauritius, for example, contains a chapter on the evaluation of the survey data on the basis of information from establishment surveys as well as administrative records (CSO/Mauritius 1997, Chapter 14). This evaluation results in the adoption of several adjustments of labour market indicators in the report.

> associated one-hour criterion in the definition of employment, and the possibility of relaxing the seeking work criterion in the definition of unemployment, all contribute to the expansive nature of the labour force framework. This aspect, together with the restricted number of categories in the framework, makes the employment and unemployment categories to a greater or lesser degree heterogeneous. This in turn may necessitate further differentiations in data analysis. Appropriate differentiation, where necessary, should compensate for any oversimplification inherent in the three-category labour force framework. Identification of more homogeneous groups should not only improve interpretation of the resulting statistics, but also help to better understand changes over time. (ILO 1990: 44).

There are certain limitations in the extent to which expansive modifications of the labour force framework, in conjunction with data differentiations, can be used to identify homogeneous groups for policy purposes. These limitations partly follow from the same labour market conditions that hamper the application of the labour force framework. For example, in many labour force surveys, employed persons are differentiated on the basis of the number of hours worked, and such breakdowns are sometimes used to arrive at estimates of time-related ('visible') underemployment.[8] However, hours of work are likely to be more precisely measured in situations in which the number of hours worked are fairly regular (or regulated), than in conditions characterised by irregularity, seasonality and the absence of written records found in the non-formal sector. Other limitations concern possible reductions in the quality of data due to modifications of the labour force framework, and difficulties in the interpretation of resulting statistics.[9]

The labour force framework can also be abandoned in favour of the use of longer reference periods (see Appendix 2). The use of longer reference periods allows for capturing seasonal variations in

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[8] A second form of underemployment, inadequate or 'invisible' underemployment, lacks an operational definition and direct measurements are not available in southern Africa or elsewhere (see e.g. ILO 1998).

[9] A relaxation of the seeking work criterion, for example, allows for more inclusive measurement of the unemployed. However, as it can generally be more objectively established whether a person is seeking work (which involves certain activities) then whether a person is available for work, this relaxation also increases the scope for subjective measurements of the labour force status of respondents.

employment, but only at a cost in terms of the likelihood of recall errors, as well as the likelihood of statistical problems related to population movements and changes in activity status during the reference period (ILO 1990). In turn, such problems and errors hamper the interpretation of survey results, and the use of longer reference periods can better be considered as a complement to, than as a substitute for, the labour force framework.

Mixed enterprise/households surveys can be seen as a more direct method to describe labour market situations that deviate from the pattern of regular full-time employment. However, mixed surveys are subject to similar limitations in the applicability of the labour force framework as household surveys, and do not reduce the need to differentiate data in order to deal with heterogeneity within the categories of the labour force framework. Such surveys do allow for better focused data collection (through the application of certain criteria in the first component of the survey),[10] as well as the collection of more information which can be used to produce differentiations of data for policy purposes (through the second component). This information mainly concerns those labour market participants less likely to be in regular full-time employment. Limitations in seeking additional information using mixed surveys may arise from the respondent burden.[11]

Such problems that may be inherent in the structure of labour markets in southern Africa may affect the quality of situational analyses due to resource constraints. In the first place, methods of data collection

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[10] Mixed enterprise/household surveys consist of two components, a household survey component and an enterprise survey component. The basic principle is to construct a sampling frame of enterprises through the first component, prior to the survey of the enterprises themselves (the second component). The selection of these enterprises is based on the application of certain criteria, for example, the criteria of the informal sector formulated by the 15th International Conference of Labour Statisticians in the first half of the 1990s (see e.g. ILO 1999). In the second component, business owners are interviewed in order to obtain detailed information on their own characteristics and those of their businesses and workers.

[11] For example, in an evaluation of the quality of data collected in the 1995 Tanzania Informal Sector Survey, it was noted that the number of questions had risen from 40 questions in the 1991 Tanzania Informal Sector Survey, to 120 in the 1995 Survey (covering Dar es Salaam only). It was suggested that future questionnaires should be shortened to reduce the chance of getting incorrect answers (BOS/Tanzania 1991 and 1995, and BOS/Tanzania and ILO 1998).

that are typically needed to cover the non-formal sector, such as labour force surveys and mixed enterprise/household surveys, are often more resource-intensive than establishment surveys or methods primarily based on administrative records. Second, there is a severe shortage of qualified persons who are trained to develop and apply methods which are more appropriate to measure labour market conditions in the sub-region. In turn, with regard to topics for which data collection methods are available elsewhere, countries may find it difficult to adapt these methods to national labour market circumstances. Many international standards, including those concerning employment in the informal sector, underemployment, as well as major international classifications concerning the labour market (e.g. the International Standard Classification of Occupations), deliberately leave scope for national modifications or refinements of data analysis. Both resource and information constraints have often prevented countries from benefiting from such standards to the extent that would be possible if more resources were available.

The monitoring function

The output of the description function of LMI systems can be used to formulate employment and labour policies. The implementation of these policies aims to contribute to the achievement of employment creation and related objectives. The monitoring function of LMI systems, tracking progress in the achievement of these objectives, may include various activities. For example, labour markets can be 'observed' with a view to establishing whether certain indicators have improved or not. Monitoring in this sense, however, consists of the regular production of a situational analysis, and leaves the role of LMI systems vis-à-vis the implementation of policies implicit. In other words, it does not differ from the execution of the description function.[12]

Tracking progress becomes different from the description function when the role of LMI systems in policy-implementation has been

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[12] The description function of LMI systems is suggested by the term 'labour market observatory', which is sometimes used as a synonym for labour market information system. The former term is more common in francophone African countries, where discussions on information and policies often focus on the activities of *observatoires de l'emploi et de la formation* (see e.g. ILO/EMAC 1998).

defined explicitly in terms of indicators that should be available, and how these indicators should change. This means that intermediate and final indicators have been identified and are being tracked to establish whether changes are in accordance with policy objectives. Similarly, certain indicators can be identified which should reach pre-determined targets or target values. Although the monitoring function is mainly concerned with final indicators, the fact that such indicators are not under the direct control of policy makers implies the need to track progress in terms of intermediate indicators (Prennushi *et al.* 2001).

Indicators for monitoring purposes are identified in policy documents. During the 1990s few countries in southern Africa had explicit employment and labour policy documents, even though all countries made reference to labour market indicators in national development plans and other programmes or projects. In particular, a number of countries used economic models to project the effects of economic policy actions on labour market outcomes. Economic models allow for the translation of labour market (and other) objectives into intermediate and final indicators, including targets. In economic models, intermediate indicators broadly correspond to exogenous indicators (reflecting policy actions), and final indicators to endogenous indicators (reflecting effects). Monitoring involves making comparisons between actual values of indicators on the one hand, and the values that have been set in the model (exogenous indicators) or have been produced by the model (endogenous indicators) on the other.

The use of models suggests that the measured or observed values of indicators defined in the model are being analysed in relation to their projected time paths, and an information system is in place to produce these indicators. Although all sources of LMI can be used for the development of models, time-consistent information is required if models are used for monitoring purposes as here described. Final indicators and targets concerning the labour market which were defined in macroeconomic models in southern Africa during the 1990s were therefore limited to indicators derived from establishment surveys (e.g.

private and public sector employment) and administrative records (public sector employment).[13]

The intermittent conduct of household and mixed enterprise/household surveys in most countries during the 1990s, in combination with the long time needed to process data from such surveys, did not allow for monitoring targets based on these sources. In addition, the heterogeneity of results of household surveys and variations in the use of labour force concepts such as employment and unemployment between data collection exercises, pose problems in translating policy objectives in indicators which can be derived from these sources.[14] Heterogeneity may also be important with regard to indicators measured on the basis of establishment surveys, but the implicit or explicit assumption was often that these indicators adequately reflected the achievement of employment policy objectives.

Most of the indicators used in policy documents are intermediate indicators. These indicators can draw on financial and management information systems at various levels (Prennushi *et al.* 2001). Treasuries or finance ministries, as well as sectoral ministries including labour ministries or departments, maintain records and administrative systems which can be used to produce indicators on the implementation of policies. All countries produce input indicators concerning government spending on various policies and programmes, as reflected in (national or sub-national) budgets. Examples of output indicators that were produced and used on the basis of administrative information during the 1990s are the estimated or planned number of participants and the commensurate amount of wages and other benefits in public works

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[13] Examples of such macroeconomic models are MEMBOT, the Macroeconomic Model of Botswana, which was used for NDP8 (Government of Botswana 1997); NAMAF, the Namibian Macroeconomic Framework, which was used for NDP1 (Government of Namibia 1995); and the model used by the government of Zimbabwe to make projections for the period covered by the Zimbabwe Programme for Economic and Social Transformation (ZIMPREST, Government of Zimbabwe 1998a).

[14] In South Africa, for example, the only country in southern Africa conducting an annual household survey programme during the 1990s, a report based on these surveys shows the large variations in labour market indicators resulting from changes in the definition of unemployment (SSA/South Africa 1998). Such variations can also be observed in other countries in southern Africa (Sparreboom 1999).

programmes, and the proportion of participants from vulnerable groups in employment and labour programmes.[15]

The possibilities of deriving final indicators from administrative information systems in southern Africa are limited. These limitations follow from the coverage of administrative information systems, as well as from the scope of particular programmes. Although administrative information systems sometimes allow for the production of final indicators such as employment (notably in the case of employment creation through EPZ policies[16]), the objectives of many employment and labour programmes are formulated in terms of 'employability'. Examples are public works programmes and training programmes, which provide knowledge or skills which aim to improve the labour market prospects of workers or beneficiaries after the completion of the programme or contract. Data for the production of indicators with regard to these objectives require special surveys or other activities that are not part of the normal activities of administrative systems.

Summarising this assessment: the monitoring function in southern Africa has often been limited to intermediate indicators. As indicators for monitoring purposes need to be time-consistent, the use of final indicators during the 1990s was confined to those which could be obtained from establishment surveys and administrative information. Indicators drawing on these sources are subject to limited coverage and possibly other deficiencies such as the scope of administrative information. Monitoring of the non-formal sector on the basis of household surveys or informal sector surveys was hardly undertaken in the sub-region during the 1990s.

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[15] The Feeder Road Programme in Mozambique, for example, a public works programme involving the rehabilitation and maintenance of tertiary roads, set targets concerning the number of participants or beneficiaries, as well as with respect to the proportion of women benefiting from the programme (Government of Mozambique 1999). In similar vein, education and training records are used to monitor female enrolment in tertiary education and training institutions against policy-targets in Zimbabwe (Government of Zimbabwe 1998b).

[16] EPZ policies are monitored in relation to employment trends in most countries, and sometimes on the basis of targets. In Swaziland, for example, the Second Economic and Social Reform Agenda sets targets concerning the employment creation effects of investment promotion (Government of Swaziland 1999).

Monitoring and institutional arrangements

The execution of all functions of LMI systems presupposes certain institutional arrangements, but the importance of an appropriate institutional structure is most evident in relation to the monitoring function. Ideally, institutional arrangements are such that policy decisions are taken in close coordination with the activities of LMI systems as set out before. In particular, employment and labour policies can be formulated on the basis of a situational analysis of the labour market, including the selection of intermediate and final indicators to monitor the implementation and the effects of these policies. Accordingly, the utilisation of resources is authorised for policy implementation as well as the establishment of an information system allowing for the production of these indicators. This process permits a clear definition of the role of the information system in terms of data collection, analysis and dissemination, and the resulting information can be taken into account in decisions regarding future policy actions ('feedback mechanisms').[17] Such a process would integrate the two circles in Figure 1.

Practice is more complicated, as employment and labour policies are formulated and implemented by a range of institutions, and the role of information systems or indicators in monitoring policies may be far from clear. Labour market outcomes are to various degrees influenced by all institutions implementing policies, while an important part of the final indicators which measure these outcomes is produced by statistical agencies (in collaboration with other institutions or not). Many institutions generate intermediate indicators on the basis of administrative information systems, or have ready access to such indicators (e.g. line ministries), and some produce final indicators on the basis of administrative information (e.g. institutions implementing EPZ policies). A number of advisory bodies such as labour advisory councils operate to a certain extent outside the administrative machinery of governments and do not have their own administrative or other information systems.

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[17] Feedback mechanisms can be defined as mechanisms by which monitoring (and evaluation) results are disseminated and used to decide on future courses of action (cf. Auer and Kruppe 1996; Prennushi *et al.* 2001).

These institutional structures for the implementation of policies are not necessarily inefficient or ineffective, and often have a certain logic in terms of organisation and implementation of policy actions as well as information production.[18] Given these structures, institutions formulating and implementing employment and labour policies are often dependent on other institutions to supply information, which requires coordination and networking among various institutions. This holds true with regard to indicators such as employment produced by statistical offices, but also with regard to intermediate and final indicators produced by other institutions. In other words, institutions can generally benefit from networks for the production and use of information, including the maintenance of databases and arrangements for data warehousing.

A number of studies indicate that there is a general lack of coordination in the production and use of information in southern Africa, essentially suggesting the absence of integration between the policy cycle and the information cycle in terms of institutional arrangements (e.g. Billetoft and Jensen 1997; ILO/EAMAT 1998; ILO/SAMAT 1994; ILO/SAMAT 1999; Kanyenze *et al.* 2000; Moyo 1993). Consequently, the potential benefits of information networks, which can be created through the establishment of councils or other institutions charged with coordinating the production and use of labour statistics, have often been stressed. Practice in most countries has been different, in that the responsibility with regard to the overall coordination of policies and activities of information systems has remained with ministries concerned with planning. However, the main focus of these agencies is usually on intermediate indicators and resource mobilisation to fund various policies and projects, and not with the monitoring of final indicators.

In short, networks linking producers and users of information have been underdeveloped, and not sufficiently supported by institutional

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[18] In a number of cases, institutional structures concerned with employment and labour policies have directly contributed to inefficiencies, wasteful duplication and competition. See e.g. Kanyenze *et al.* (2000) on Zimbabwe, where the division of labour between the Ministry of Public Service, Labour and Social Welfare on the one hand, and the Ministry of National Affairs, Employment Creation and Co-operatives on the other is far from clear. A similar situation was created towards the end of the 1990s in Namibia.

arrangements. It is more difficult to outline 'appropriate' arrangements concerning employment and labour policies outside the context of a particular country. Considerations in developing such arrangements include the existing institutional set-up, the availability and control of resources, and the extent to which monitoring requires information which is not routinely produced already (by administrative information systems as well as statistical agencies).

The evaluation function

The evaluation function consists of an assessment whether policy actions, as measured through intermediate indicators, contributed to outcomes as measured through final indicators. This function assists policymakers in the (re)formulation of policies, focusing on questions such as whether certain policies should be initiated or not, and whether particular programmes should be expanded, modified or eliminated. Defined more broadly, evaluation involves the identification of (cause and effect) relationships on which employment and labour policies are based or can be based. Evaluations in a broader sense are the concern of the research community as a whole. Research is undertaken to understand relationships that are relevant in explaining labour market outcomes and assessing employment and labour policies without necessarily attempting rigorously to test the line of causality.

Evaluating the contribution or impact of a policy or programme hinges on the fundamental question of what the situation would have been if the intervention had not taken place (Prennushi et al. 2001). As this situation cannot be observed, a counterfactual has to be constructed or visualised drawing on various theories and methods. In the context of single policies or programmes, counterfactuals can be simulated using control or comparison groups.[19] In the case of 'full coverage' (national) interventions, evaluations have to rely on other means to approximate counterfactuals, such as comparisons between situations before and after interventions, computer simulations and various statistical techniques.

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[19] In some cases, the phased introduction of policies may provide for comparison groups. For example, in a study on the impact of business licence reforms in Kenya, Abuodha and Bowles (2000) collect data from areas in which a new permit system has been introduced as well as from areas which have not done so yet, to assess various effects of these reforms.

Considering the range of possible employment and labour policies, which includes broader economic policies such as fiscal and monetary policies, assigning attribution requires an evaluation framework which allows for the identification of causal relationships when a large number of economic and labour market variables change simultaneously. This is a daunting task, which is demanding in terms of resources and capacity. In most southern African countries, such evaluations have seldom been undertaken. In documents outlining major economic strategies such as development plans, the evaluations of policies often take the form of a broader assessment of policy actions with a focus on intermediate indicators. In-depth evaluations are more common in the context of single policies or programs,[20] especially if funding is available to undertake dedicated data collection exercises.

The use that can be made of national household survey data for purposes of evaluating particular programmes is limited, as usually no information is available regarding programme participation. The need for such information can be taken into account in the design of surveys, but this has not been very common in household surveys such as labour force surveys in southern Africa. Household surveys, and especially labour force surveys, do have a role in evaluations in the broader sense mentioned before, i.e. in gaining understanding regarding relations which are relevant to employment and labour policies, and also allow for the statistical testing of some of these relations.

Both evaluations in the narrow sense (assigning attribution) and in the broad sense (research) are hampered by the limitations of the description function that have been discussed above. If the classification of persons as employed or unemployed is subject to ambiguity, it is difficult to establish cause and effect relationships or attribute changes in labour force status to particular policies. This issue can be illustrated with an assessment of the South African labour market that was undertaken in the mid-1990s. The aim of the study was to identify labour market problems in South Africa, assess current employment and

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[20] Constructing counterfactuals at the programme level is not necessarily less complex, but the programme itself will have a more limited scope. Formulation and implementation of programmes may also be based on a clearly identified 'chain of events' (Hume 1997), which provides a framework for evaluation activities.

labour policies, and make policy recommendations (Standing *et al.* 1996). In the examination of overall employment trends, data were used from various sources, including some from household surveys and establishment surveys. No less than fourteen issues were raised regarding the question of why employment is underestimated in South Africa. Some of these issues are more or less specific to South Africa, but many others follow from the structure of labour markets that characterises the sub-region as a whole. The assessment concluded that 'One simply cannot estimate the trend in employment since 1980 with any reasonable accuracy'. If this conclusion is accepted, any evaluation of past policies will be subject to intense debates which are difficult to relate to 'facts' in terms of quantitative information.

Conceptually, the formulation of employment and labour policies precedes monitoring and evaluation. In practice, policies are continuously being implemented, and during the 1990s policy changes were only to a limited extent based on particular evaluation exercises of past policies. Policy formulation drew much more on general knowledge concerning employment and labour policies, and in particular on the policies promoted by the International Monetary Fund (IMF) and The World Bank. These policies, and their relation with labour markets, are explained in many documents including the series of *World Development Reports (WDRs)* published by The World Bank. The 1990 WDR, for example, argued that economic development could essentially be brought about by liberalising trade and markets in line with efficient market hypotheses, promoting labour-intensive growth, investing in infrastructure, and providing basic social services to poor people to increase their human capital (World Bank 1990 and 2000).

The policies promoted by the international financial institutions underwent a number of changes during the 1990s, which were not only based on evaluations conducted in the framework of reform programmes in various countries, but also on developments in economic research in general. An important change was an increasing emphasis on the role of institutions. The policy ramifications can be illustrated with regard to the 1990, and the 2000/1, *World Development Reports* respectively. The 2000/1 WDR explicitly states that earlier strategies such as those elaborated in the 1990 WDR should not be negated, but emphasises the need to broaden the agenda. It proposes a

framework of action in three areas: promoting opportunity, facilitating empowerment and enhancing security (World Bank 2000:33). These views reveal a shift towards policies that recognise the role of the institutional environment in economic reality, in particular the role of state institutions.

What are the implications of these considerations for LMI systems? The relevance of the activities of LMI systems limited to producing a set of basic labour statistic is not necessarily affected by whether economic views associated with efficient market hypotheses are considered to reflect reality or not. These activities are concerned with labour market outcomes such as employment and prices (wages), which can be used for purposes of the description function. The limitations of data collection activities aiming to measure labour market outcomes become clear when the role of LMI systems is extended to the monitoring and evaluation functions. If economies behaved in accordance with efficient market hypotheses, the liberalisation of markets could be expected to result in improved values of labour market indicators. In this case, changes in labour market indicators are explained by eliminating market distortions, which are generally under the control of policymakers. Following institutionalist economic arguments, however, such changes are unlikely to be explained in the absence of the systematic collection of information concerning the institutional environment of the labour market.

The collection of information on institutions in many countries was undertaken through an expansion of the role of qualitative research, often with support from The World Bank. Qualitative research methods (participatory methods including focus group discussions, case studies, etc.) are often considered as appropriate instruments in developing an understanding of complex processes and interactions, such as those between institutions and market outcomes. But there are drawbacks of these methods, including difficulties in generalising research findings. Participatory methods often result in valuable information concerning particular communities, localities and contexts, which cannot be readily translated into information outside these contexts. However, such information does provide a basis for the development of (community level) interventions along the lines elaborated by The World Bank in terms of opportunity, empowerment and security.

With regard to measurement, a number of attempts were made during the 1990s to develop indicators allowing for the comparisons of institutions between countries and over time. However, some of the recently developed indicators capturing the institutional environment are difficult to relate to policy actions. In the case of the governance indicators, for example, it has been observed that a lot of research shows that governance in some ways affects public-sector performance, which in turn affects poverty and other outcomes, but does not result in firm prescriptions about what should be done (World Bank 2001).

Labour market information systems for skills policies in South Africa

The factors hampering the development of LMI systems in southern Africa, and the possibilities for improving them, can be illustrated by an examination of information systems for skills policies in South Africa. The functions of LMI systems were not adequately performed with regard to skills policies in this country in the mid-1990s. The institutional set-up for skills policy development was characterised by certain weaknesses, resulting in the absence of any national strategy, targets, or agreed priorities for funding and promoting training (Gill 2000; Standing *et al.* 1996). The general situation was such that employment trends could not be established with reasonable accuracy, thus negatively affecting the ability to monitor or evaluate a range of labour market policies including skills policies. Furthermore, available information for skills policy development showed large gaps, in particular regarding the black, Indian and coloured population (see e.g. Government of South Africa 1994).

Following the democratic transition in 1994, a new institutional, legislative and skills policy framework was developed. Among the many new laws and regulations was the 1998 Skills Development Act (SD Act), which was followed by the adoption of the National Skills Development Strategy (NSDS) in 2001. The SD Act provides for a National Skills Authority (NSA) representing the national stakeholders of the training system, and for 25 sector education and training authorities (SETAs) representing sectoral stakeholders. The functions of each SETA include the development and implementation of sector skills plans, the promotion of skills development in its sector, and the

management of skills funding in accordance with specific regulations. The NSDS sets out the overall goals of skills development, and links objectives of the strategy such as lifelong learning to indicators and quantitative targets (Government of South Africa 2001).

The functions of information systems in this framework can be summarised as follows. The first function – describing the current situation – is undertaken by SETAs through the regular (annual or bi-annual) production of sector skills plans (SSPs) and by Provincial Offices of the Department of Labour (DOL) through the production of provincial skills plans (PSPs). SSPs are more focused on the formal sector, while PSPs cover projects and other activities aimed at skills development in the non-formal sectors of the economy. The Skills Development Planning Unit (SDPU) in the DOL performs the description function at the national level through the maintenance of a Skills Development Information System (SDIS). The SDIS draws on a number of sources of information including SSPs and PSPs.

The second function – monitoring the implementation of policies – aims to measure progress in the implementation of the NSDS, guided by the indicators defined in the strategy. The information used for monitoring the strategy is produced by a number of institutions, and the responsibility for a coordinated collection and analysis of information lies with the SDPU. Two examples of important institutions are Statistics South Africa (StatsSA), which provides the quantitative framework for monitoring of the NSDS through the programme of semi-annual labour force surveys that was introduced in 2000, and SETAs. SETAs monitor skills development in the formal sectors of the economy and produce quarterly reports that contain information on all skills development efforts in a particular sector in line with the indicators defined in the NSDS. Using information from StatsSA, SETAs and other sources, the SDPU produces various reports that inform and advise the NSA, the Minister of Labour and other stakeholders (see e.g. Government of South Africa 2002).

Regarding the third function of information systems – evaluating policies – the NSDS lists a number of evaluation issues; for example the effects (impact) of training in terms of productivity, employer and employee benefits. The SDPU is coordinating a series of evaluations undertaken by consultants that are addressing these evaluation issues,

and the results of these evaluations are to be fed into the SDIS and into reporting to the NSA. One example consists of tracer studies of beneficiaries of particular skills and their development modalities. The object of this exercise is not only to produce information on the effects of skills development, but also to develop models and build capacity in SETAs to ensure a continuous flow of information for evaluation purposes.

An examination of information systems for skills development in South Africa illustrates that all three functions are undertaken, and that the need for appropriate institutional structures linking policy development and information systems has been recognised. Important factors that help explain the development of such systems in South Africa are the momentum generated by the democratic transition, the strong support from donors and technical assistance agencies, and the relatively large formal sector. As in the case elsewhere in southern Africa, progress with information systems for the non-formal sector is much slower in the face of the constraints that have been discussed in previous sections and given the absence of well-resourced organisations such as SETAs.

Conclusion

This paper examined the relevance of labour market information systems in southern Africa. What relevant information entails is related to the stages of the policy cycle, which leads to a distinction between three functions of LMI systems in relation to employment and labour policies. These are the description, monitoring and evaluation functions.

Ideally, these functions are undertaken in such a way that the activities constituting the information cycle and the policy cycle are closely coordinated or integrated. In practice, this process is hampered by a number of factors. Integration requires appropriate arrangements among the range of institutions involved in employment and labour policies as well as the production of information. However, many studies suggest that institutional arrangements in southern Africa have often been far from appropriate. In particular, the role of information networks in most countries during the 1990s was only weakly developed, and an institution taking a leading role in the development of LMI systems or databases was often lacking.

Apart from shortcomings in terms of institutional arrangements, the performance of all three functions of LMI systems is hampered by limitations in the extent to which it is possible to describe adequately labour markets in quantitative terms. The structure of labour markets in the sub-region, notably employment patterns outside the formal sector, poses certain difficulties for a proper description. These difficulties concern the application of the tools to measure labour markets such as the labour force framework and the major international classifications. Although methods focused on capturing labour market developments in the non-formal sector were increasingly used during the 1990s, these methods are only able to overcome these difficulties to a certain extent, while their use was restricted by the resource constraints characterising most countries in southern Africa.

Taken together, these factors resulted in a mismatch between information that is desirable from a policy perspective and information which was produced during the 1990s. In terms of the description function, situational analyses of labour markets were often drawing on fragmented data and information, which were to varying degrees outdated. Monitoring of employment and labour policies was often limited to intermediate indicators based on administrative information. Final indicators for monitoring purposes were obtained from establishment surveys and in some cases from administrative sources, but these sources do not allow for monitoring of non-formal sector labour market developments, and may suffer from additional deficiencies. Although employment and labour policies that attempt to exploit the potential of the informal sector were formulated and implemented, the use of final indicators in relation to such policies was prevented by the constraints to which reference has been made. In terms of quantitative information, the non-formal sector was often treated as a residual category in policy documents.

The formulation of employment and labour policies in southern Africa is only to a limited extent based on evaluation exercises which allow for the rigorous testing of the relationship between labour market outcomes and policy actions. General knowledge on how to formulate effective policies has been more important, and in particular the views promoted by international financial institutions. These views underwent important changes during the 1990s, and were reflected in policies as

well as data collection exercises in many southern African countries. These changes came down to an increased focus on the role of institutions in economic processes. In terms of information systems, this attention suggests the need for a greater role for qualitative research methods and information, although it is often less clear which information is needed and how this information should be collected and used in relation to policies.

The improved performance of the functions of LMI systems would in many cases require additional resources to undertake regular data collection programmes and gradually improve methods to capture labour market situations in national contexts. In addition, stronger commitment is needed to develop appropriate institutional structures for monitoring employment and labour policies which better address the labour market problems afflicting southern Africa. In this respect, recent developments in South Africa which have enjoyed international support have shown that it is possible to undertake the provision of skills information systems within a functioning institutional structure, even if some of the associated problems remain to be resolved.

Appendix 1.

Table 1. Labour force surveys in southern Africa 1960–2000

Country	*Year*				
	1960-1969	1970-1979	1980-1989	1990-99	2000
Angola				92 (capital)	
Botswana			84	95	
Kenya		77	86 (urban)	98	
Lesotho		78	85	97	
Malawi			83		
Mauritius			86	95	
Mozambique					
Namibia				91 97	00
South Africa				99	00
Swaziland					
Tanzania	65			90	
Zambia			86		
Zimbabwe			86	94 99	

Table 2. Population censuses in southern Africa 1960–2000

Country	*Year*									
	1960-1969			1970-1979		1980-1989		1990-1999		2000
Angola	60			70		83				
Botswana	64			71		81		91		
Kenya	62		69		79		89		99	
Lesotho			66		76		86		96	
Malawi			66		77		87		98	
Mauritius	62			72		83		90		
Mozambique	60			70		80			97	
Namibia	60					81		91		
South Africa	60			70		80	85	91	96	
Swaziland			66		76		86		97	
Tanzania			67		78		88			
Zambia	61	63	69			80		90		0
Zimbabwe	62		69			82		92		

Notes: 1. The first entry, '92', indicates that a labour force survey was conducted in Angola in 1992, etc.
2. Limited geographical coverage is indicated in parentheses.
3. South Africa started a series of semi-annual labour force surveys in 2000.

Appendix 2.

Measuring employment and unemployment in household surveys

In the measurement of labour market developments through household surveys and population censuses a number of labour force concepts are used, including the labour force framework, the reference period, and the definition of unemployment. These concepts are briefly explained below.

The labour force framework

The central concept in the *labour force framework* is the *labour force* or the *currently active population*, which gives a measure of the number of persons

which constitute the supply of labour at a given moment in time. To measure labour supply, the labour force framework classifies the working age population into mutually exclusive and exhaustive categories based on a specific set of rules (ILO 1990). These categories are the employed, the unemployed (together constituting the labour force), and the *currently inactive population* (those not in the labour force).

According to the priority rules of the labour force framework, employment has precedence over unemployment, and unemployment has precedence over inactivity. A person is employed when he or she has worked for pay, profit or family gain for at least one hour during a relatively *short* reference period. The application of the priority rules implies that a person who has been without work for most of the reference period. For example six days out of a reference period of one week, is nevertheless regarded as employed if he or she has worked for at least one hour on the seventh day. Within the labour force framework, unemployment is thus limited to a total lack of work (and further constrained by other conditions, see below), ensuring a straightforward link between employment, hours of work and income from employment (ILO 1990). By the same token, a student is considered to be economically inactive and outside the labour force. However, if a student is available for work and, if required by the particular definition of unemployment, looking for work, he or she is classified as unemployed. The concept of work for pay, profit or family gain is limited to *economic* activity defined in terms of the production of goods and services according to the System of National Accounts. In practice, manuals for surveys and censuses may include lists of activities that should be considered as 'work'.

Short and long reference periods

A second method to classify persons into mutually exclusive and exhaustive categories consists of examining the *usual* activity status of the population of working age. The usual activity of a person is defined by that person's main activity during a *long* reference period, in most cases covering the previous 12 months. In contrast to the priority rules of the labour force framework, measurement of the usually active population starts with classifying individuals as either usually active or usually inactive. This classification is determined on the basis of a

summation, over the long reference period, of the different activity statuses that the person had on each day, week, or month of this period. A person is classified as usually active if that person was employed or unemployed most of the reference period, or at least longer than a minimum period as specified for that particular data collection exercise. If the number of months or weeks of employment equals or exceeds the number of months or weeks of unemployment, a person is classified as employed, while a person is classified as unemployed in the alternative case.

Broad and strict definitions of unemployment

According to international standards, the unemployed should in principle satisfy the three criteria of being without work, available for work, and seeking work. However, standards adopted in 1982 introduced a provision allowing the 'seeking work' criterion to be relaxed in situations where 'the conventional means of seeking work are of limited relevance, where the labour market is largely unorganised or of limited scope, where labour absorption is at the time inadequate, or where the labour force is largely self-employed' (ILO 1990). Accordingly, unemployment can be measured according to the 'broad' or the 'strict' definition, depending on the inclusion or exclusion of those without a job who are available for work but are not actually seeking it. Both definitions are consistent with the principles of measuring unemployment on the basis of short or long reference periods, but selecting one or the other often has a significant effect on the rate of unemployment (as well as other labour market indicators) in southern African countries and may therefore be quite controversial.

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