

# MEASURING THE PERFORMANCE OF EQUITY-SHARE SCHEMES IN SOUTH AFRICAN AGRICULTURE: A FOCUS ON FINANCIAL CRITERIA

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## Abstract

*This study aims to develop a robust methodology for measuring financial performance of equity-share schemes. Several studies have investigated various aspects of performance of these schemes but no single study has yet measured their performance using an objective set of criteria. Four categories of such objective criteria are proposed: poverty alleviation; empowerment and participation; institutional arrangements and governance; and financial performance. This paper focuses only on the financial performance criteria. Recognised indicators of financial performance are applied to balance sheet and income statement data provided by four equity-share schemes in the Western Cape province. This analysis highlights problems with several of the conventional ratios used to measure profitability, solvency and growth when they are applied to recently restructured farming enterprises whose 'empowerment' status attracts exceptionally high levels of debt capital to finance long-term investments. To avoid these problems it is recommended that, for equity-share schemes, profitability should be measured by the return on assets or dividend return; solvency by the debt/asset ratio; liquidity by cash flow projections; growth by changes in the (estimated) real value of shares; and workers' total returns by changes in the sum of the real wage bill, capital gains, dividends, interest and other benefits accruing to workers in aggregate.*

## 1. INTRODUCTION

Equity-share schemes have been proposed as one means of dealing with the relatively slow pace of land and wealth redistribution in South African (SA) agriculture. They have also been proposed as a means of dealing with free-rider problems associated with conventional producer co-operatives and collective ownership of resources (Knight *et al*, 2003). Group ownership is a trend that is likely to continue in SOUTH AFRICA because most disadvantaged people lack the resources needed to purchase their own land

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privately. Instead they combine their resources to purchase land collectively (Knight *et al*, 2003). In KwaZulu-Natal, less than 0.5% of commercial farmland has been transferred to previously disadvantaged owners each year (Lyne & Darroch, 2003:76). Lyne & Darroch (2003:83) attribute this slow pace of land reform to the high cost of subdivision and to cash flow problems associated with conventional mortgage loans. Under these circumstances, group ownership models such as equity-share schemes offer institutional arrangements that outperform conventional producer co-operatives and communal property associations (CPA's) (Knight & Lyne, 2002).

These schemes were originally initiated by the private sector in the early 1990's. The concept of equity-share schemes is not limited to include only farmworkers, but other previously disadvantaged stakeholders, such as neighbouring rural communities, as well. The first scheme was based at a fruit farm in the Western Cape province. They have since been implemented in the wine, fruit, vegetable, olive, cut flowers, dairy and eco-tourism industries around SA (Knight & Lyne, 2002). A successful equity-share scheme should achieve a variety of goals, including the redistribution of wealth, worker empowerment, retaining or attracting quality management, creditworthiness, improved worker productivity and power relations, and provision for ownership and control to be fully transferred to previously disadvantaged shareholders (Knight *et al*, 2003). To date no single study has comprehensively measured the success of equity-share schemes in attaining these goals.

Several studies have investigated particular aspects of performance of these schemes. Early studies questioned the success of equity-share schemes based on assessments of worker participation, empowerment and institutional arrangements. For example, Hall *et al* (2001) argued that power relations were not improved and that gender equality was not promoted. Karaan (2003) concluded that equity-share schemes fail from an institutional economics perspective due to institutional incompleteness, and Mayson (2003) criticised the ability of these schemes to improve tenure security. A study conducted by Knight (2003) in the Western Cape showed that many of these concerns had been corrected in the more successful projects, especially those with superior financial performance. In particular, Knight *et al* (2003) found positive links between financial performance, sound institutional arrangements, effective worker empowerment and good management. However, no single study has adequately assessed the performance of equity-share schemes in terms of a comprehensive set of criteria that objectively measure the broader goals of agrarian reform (Mayson, 2003). Mayson (2003) also notes that although government has guidance policies on equity-share schemes, the Department of Land Affairs (DLA) has not conducted thorough research on these schemes,

nor does it have records of the number of schemes currently operating in SA. It is therefore difficult to judge whether these schemes do make a useful contribution to the land reform programme in South Africa. Lyne *et al* (1998) estimated that about 50 equity-share schemes were in operation in SA in 1998 but more recent estimates are lacking.

Based on policy and socio-economic issues raised in previous studies, it is clear that comprehensive assessment of equity-share schemes requires consideration of empowerment, institutional and financial criteria. It is important to develop a holistic approach to measuring performance of these schemes to gauge, monitor and identify reasons for their success or failure. Policy objectives of agrarian reform need to be considered in determining their success, and these goals must be included in performance criteria for equity-share schemes. Some of the policy objectives set out under the SA land policy include equitable distribution of land ownership, the reduction of poverty, security of tenure, and empowerment of beneficiaries to improve their economic and social well-being (Ministry for Agriculture and Land Affairs, 2000:2).

Four categories of criteria are proposed for monitoring the performance of equity-share schemes: poverty alleviation; empowerment and participation; institutional arrangements and governance; and financial performance. This paper focuses only on financial criteria. Application of these criteria is demonstrated using financial data gathered from four equity-share schemes in the Western Cape in early 2004. The other three categories of criteria will be the subject of a forthcoming paper. Section 2 of this paper outlines previous work on equity-share schemes. Section 3 proposes a set of financial performance criteria, and section 4 illustrates the empirical application of these criteria at four case studies in the Western Cape, highlighting problems encountered, recommending solutions and suggesting ways of improving these criteria in future studies.

## **2. PREVIOUS RESEARCH ON EQUITY-SHARE SCHEMES**

Eckert *et al* (1996) view land reform as a process for redistributing property incomes (capital gains, dividends and interest from owning property) in South Africa where there is a history of uneven land distribution. In their study, Eckert *et al* (1996) examined dividend payouts at Whitehall Farm, an equity-share scheme in the Western Cape. They found that very few respondents actually understood the term 'dividend' but that they did understand they would receive a share of the business profits. No dividends had been declared at the scheme so changes in consumption or savings

patterns could not be measured. The respondents were asked to rank what they would do with dividend payments once they received them. Saving was the most frequent of items ranked first (35%), housing was second (32%), followed by investment in their own businesses (19%) and education (10%). Eckert *et al* (1996) viewed capital growth as an important benefit from equity-sharing. Their study did not attempt to measure capital growth but rather to identify how worker-shareholders would use their money once shares had been sold and how they viewed capital growth. In addition, they attempted to quantify changes in labour productivity and turnover, job satisfaction and income changes but did not focus on other performance criteria such as governance and participation.

The Surplus People's Project (SPP) studied equity-share schemes in 1998 (Fast, 1999). They identified a number of concerns regarding equity-share schemes related to worker participation during establishment, beneficiaries' expectations, power relations between worker-shareholders and the original owner, transfer of skills, labour relations, the position of employees who are not shareholders, gender issues, tenure security and issues concerning entry and exit from a project (Knight & Lyne, 2002). A later study of eight equity-share schemes conducted by Knight (2003) in the Western Cape showed that many of the concerns raised by the SPP had been corrected in the more successful projects. Worker-shareholders in these eight schemes had purchased net farm assets worth R7 million (measured in constant 2001 prices) representing 3.5-50% of total shareholding (Knight & Lyne, 2002). Shares of ownership and control held by workers are expected to improve with the introduction of more generous Land Redistribution for Agricultural Development (LRAD) grants.

Hall *et al* (2001) argued that equity-share schemes might be failing to meet the objectives of redistributing power and resources. They claim that power relations at these schemes do not shift because the workers remain minority shareholders and have little say in decision-making processes (Hall *et al*, 2001). Knight & Lyne (2002) showed that this was not viewed as a serious problem by beneficiaries interviewed in their study of eight schemes in the Western Cape. Hall *et al* (2001) also argue that equity-share schemes fail to improve gender equality because shareholding is tied to employment and the original Settlement/Land Acquisition Grant (SLAG) was based on one grant per household head. With the introduction of LRAD grants, which are made on an individual basis, Ferrer & Semalulu (2004) found that women were beneficiaries in 50% of all transactions involving a combination of LRAD grants and mortgage loans in KwaZulu-Natal during 2002, and were therefore more effectively targeted than under the SLAG programme. Knight & Lyne

(2002) showed that women made up over 50% of shareholders at 63% of the eight projects that they studied.

Karaan (2003) reviewed equity-share schemes from an institutional economics perspective and concluded that equity-share schemes are subject to institutional incompleteness. This comparison was based on Williamson's (1999 cited by Karaan, 2003) conceptual framework for analysing economic institutions and compares equity-share schemes to other private ownership models. Equity-share schemes present an alternative to sole proprietorship where grants are too small to cover the costs of subdividing farmland for individual buyers, let alone finance a meaningful down payment on the purchase price of even a relatively small farm. Considering that a large majority of farmworkers do not have sufficient means to purchase their own land it is perhaps more appropriate to compare equity-share schemes with other group ownership models. In this respect, Knight & Lyne (2002) are of the opinion that the institutional arrangements of equity-share schemes outperform conventional producer co-operatives and CPA's.

Mayson (2003) assessed the contribution of five types of joint ventures, including equity-share schemes, to land reform in SA. His assessment was based on their ability to provide independent land tenure security, improve access to capital, transfer business and management skills to beneficiaries, generate immediate benefits, promote gender equality and change power relations between participants (Mayson, 2003). Data were obtained from interviews with management and farmworkers at a single equity-share scheme, De Kamp Boerdery, in the Western Cape, and with various government officials and land reform experts. His study focused mainly on empowerment and participation criteria, with some examination of poverty alleviation (provision of immediate benefits), and institutional arrangements and governance (gender equality and power relations). Mayson (2003) argues that equity-share schemes should be viewed as investment schemes and not as instruments of land redistribution because they aim to obtain committed workers; rather than to transfer land. He concludes that equity-share schemes often fail to transfer skills to farmworkers because there is limited time and skill to train workers in-house, and gender equality is compromised because shareholding is often linked to employment and females are excluded because they are not full-time employees. This contrasts with Knight & Lyne's (2002) findings in the Western Cape where women comprised more than half of the worker-shareholders at most of the eight schemes studied. Most of these schemes made special provision for female representation in their constitutions. Lastly, Mayson (2003) cites power relations as a problem because the worker-shareholders often hold a trivial shareholding, and even where they own a

meaningful share, often lack the necessary education and training to contribute proportionally to management processes. This emphasises the importance of continued skills transfer through training programmes at these schemes.

Knight *et al* (2003) identified best institutional practices for equity-share schemes in their analysis of case studies in the Western Cape. They related financial performance to institutional rules (including governance and organisational arrangements), worker empowerment and management quality. Some measures of financial performance were excluded from the analysis because most of the equity-share schemes surveyed were too new to report a full set of financial records. This left seven indicators of financial performance reflecting creditworthiness (private financing and collateral), liquidity (wages), dividends, capital gains and, from the workers' perspective, improvements in working conditions and housing. Knight *et al* (2003) conclude that sound institutions are built on tradable voting and benefit rights assigned in proportion to shareholding. This foundation is facilitated by organising the equity-share scheme as a private company (investor-owned firm), which offers shareholders well-defined property rights, accommodates temporary restrictions on the trading of shares, and establishes legal requirements for transparent and accountable management.

Koutroumanidis *et al* (2004) evaluated the financial performance of rural co-operatives in Greece using eight financial ratios. Although not a study of equity-share schemes this study is relevant to proposing financial measures for equity-share schemes. Koutroumanidis *et al* (2004) measured financial performance using categories of efficiency, reliability and management ratios. Different subjective weights were assigned to the ratios to simulate four scenarios. Each scenario produced an overall financial performance measure for each co-operative. In the first scenario the ratios were all weighted equally, in the second management ratios were weighted higher, efficiency in the third scenario, and reliability in the fourth scenario. Half of the eight ratios represented reliability and these were mainly based on aspects of liquidity. Similar ratios are proposed in this study to monitor the financial performance of equity-share schemes.

Although this paper focuses on only one of four categories of performance criteria it is nevertheless important to establish a feasible set of objective criteria to assess the financial performance of equity-share schemes. Knight *et al* (2003) attempted to include some financial information in their study but they faced the problem, as did others (such as Eckert *et al*, 1996), that the schemes were too new to report a full set of financial records.

### 3. PROPOSED METHODOLOGY FOR MEASURING FINANCIAL PERFORMANCE

Measuring financial performance involves examination of financial statements to assess the performance of a business based on its profitability, solvency, liquidity, risk, efficiency and growth status. The primary aim is to analyse the business' past and present performance in order to identify strengths and weaknesses and to formulate feasible plans for the future (Barry *et al*, 2000:91). Indicators of financial performance over time may also be gained from trends in financial ratios, of which the most relevant are discussed further.

Most financial ratios are computed from information presented in the income statement and balance sheet. It is important to note that assets in the balance sheet are usually valued at historical cost whereas they should be assessed at current market value to compute meaningful ratios. This is especially important where land represents the largest underlying asset of the business, and in times of significant inflation. Ratios have the advantage that acceptable levels (norms) have already been developed for different types of businesses and provide important indications of the financial health of enterprises and their relative performance. Financial ratios should be calculated over successive years to observe trends in liquidity, solvency, profitability and growth. Table 1 presents financial indicators and norms commonly used to assess the performance of a farming business.

Profitability may be measured in absolute terms by net farm income, but this cannot be compared between different types of enterprises (Barry *et al*, 2000:101). Profitability ratios therefore become more useful as general performance indicators. These ratios have a large effect on financing decisions (Van Zyl *et al*, 1999:84). Return on assets (ROA) and return on equity (ROE) are commonly used to assess profitability of investments in assets and equity respectively. These ratios should be used only to compare like businesses or to examine trends over time. Dividend return is an alternative to ROA and ROE, and is widely used in stock exchanges to measure profitability.

The current ratio is a general measure of liquidity at a point in time and is widely used as a measure of a business' ability to meet its financial commitments as they become due (Barry *et al*, 2000:108). For farm enterprises the size of the current ratio is strongly influenced by the point in time at which the ratio is calculated because most farm enterprises have long production cycles. The interest coverage ratio is a measure of the business' ability to repay debt and, like the current ratio, provides a measure of liquidity at a particular point in time (Barry *et al*, 2000:112).

**Table 1: Conventional financial indicators for measuring the financial performance of farm enterprises**

| Measure                        | Ratio/Indicator  | Norm <sup>1</sup>             |
|--------------------------------|--|-------------------------------|
| <b>Profitability</b>           |  |                               |
| Rate of return on assets (ROA) | Return on farm assets <sup>2</sup> / Average farm assets                       | Exceed real interest rate     |
| Rate of return on equity (ROE) | Return on farm equity <sup>3</sup> / Average farm equity                       | Exceed ROA                    |
| Dividend return                | Dividend payment/Share price   | >0                            |
| <b>Liquidity</b>               |  |                               |
| Current ratio                  | Current assets/Current liabilities   | >1                            |
| Interest coverage ratio        | Return on farm assets <sup>2</sup> /Interest paid                              | >1                            |
| <b>Solvency</b>                |  |                               |
| Debt/Asset ratio               | Total liabilities/Total assets   | <0.3-0.5                      |
| Leverage                       | Total liabilities/Farm equity  | <1                            |
| <b>Growth</b>                  |  |                               |
|                                | Absolute & relative change in share value <sup>4</sup> over period             | Should be monitored over time |
| <b>Workers' total return</b>   |  |                               |
|                                | Dividends, capital gains, wages, other benefits & interest received by workers | Should be monitored over time |

<sup>1</sup> Norms were taken from Barry *et al*, 2000; Van Zyl *et al*, 1999; and Kohl, 1992.

<sup>2</sup> = Net farm income from operations (excludes interest, tax, rental payments, and salary paid to management) + other net income from farm assets before tax (Van Zyl *et al*, 1999:86).

<sup>3</sup> = Net farm income from operations - (interest + rental payments + salary paid to management) + other net income from farm assets before tax (Van Zyl *et al*, 1999:86).

<sup>4</sup> = Net asset value/Total number of shares issued.

The debt/asset, equity/asset and leverage ratios are mathematically related so it is not necessary to compute all three to gain information on the solvency position of the business. High leverage places the business at risk of failure because unfavourable events have a larger effect than favourable events (Barry *et al*, 2000:172). As leverage increases, liquidity is placed under pressure as credit reserves decrease. The advantage of the debt/asset ratio is that the norm remains relatively consistent between different types of businesses (Barry *et al*, 2000:110). The leverage ratio norm varies among different types and sizes of businesses (Van Zyl *et al*, 1999:79).

Growth of the business may be measured by comparing starting equity and closing equity over a financial period. In measuring growth of an equity-share scheme, this amounts to a change in share value, where share value is calculated as the current market net asset value divided by the number of shares issued. Growth is therefore measured by capital gains on shares. This presents growth in absolute or relative terms and is useful in comparing trends over time but not for comparisons between different equity-share schemes.



The financial performance of the business should also be viewed from the worker's perspective. Apart from the direct financial benefits of acquiring equity in the business (e.g. dividends and capital gains) the workers may be better able to influence their working conditions. A greater relative worker shareholding suggests that workers are more able to influence policy on housing, access to basic services, wage levels and leave agreements. Each scheme may pay different combinations of these benefits so measures of change in workers' total returns must be used to compare the performance of schemes over time. Workers' total returns includes dividends, capital gains, wages, other benefits such as medical aid contributions and other non-cash items, and interest received by the workers from loans made to the business.

#### **4. APPLICATION OF METHODOLOGY**

##### **4.1 Data collection**

A detailed study of seven established equity-share schemes was conducted in the Western Cape during February 2004 to test performance criteria proposed for empowerment and participation; institutional arrangements and governance; and financial performance. Interviews were held with farm owners (or managers), the chair of the worker's trust and ordinary worker-shareholders. The following section presents only the results obtained for the financial performance criteria. Financial statements for 2002 and 2003 were obtained from four of the seven farms visited and these were used to compute the ratios measuring liquidity, solvency, profitability and growth discussed in section 3. Of the four case studies that provided financial records, two had been operating as equity-share schemes since 2000, and the others since 1998 and 2001, respectively. The farms used in the financial analysis were located in the Stellenbosch, Piketberg and Lutzville regions of the Western Cape and the business activities of these farms included wine grapes (Projects 1 and 3), deciduous and citrus fruit (Projects 2 and 4), cut flowers (Project 4) and vegetables (Project 3). Three of the case studies operate as private companies and one as a partnership. Workers' relative shareholding exceeds 40% in three cases and is ten per cent in the remaining case.

Information needed to calculate the financial ratios is presented in Table 1. In addition, the farm manager (who was often the original owner) were asked to detail the composition of the workforce and the lowest and highest wage rates paid to both skilled and unskilled workers. They were also asked when last the land had been valued and to provide dates and values for fixed improvements to land. For these projects, land (including fixed improvements) accounted for over 80% of the total asset base so (improved) land values were

adjusted to current market value using the farm manager's estimates for 2002 and 2003. In one case where the farm manager would not provide his own estimate, real estate agents in the area were asked for estimates and a land valuator with personal knowledge of the particular farm was also contacted. Movable assets were valued at book value after depreciation. These values are likely to be biased estimates of current market value but movable assets accounted for a small share of total asset value.

Knight *et al* (2003) proposed a model of factors contributing to the performance of an equity-share scheme. One of the factors contributing to enterprise performance is enterprise choice and market environment. Financial performance must therefore be compared to trends in the relevant agricultural industries or market environment. The fruit, wine grape and cut flower industries have all been negatively affected by significant Rand appreciation since 2002. In 2002, citrus prices were expected to increase by ten per cent from the previous year due to a weakening Rand (Mabiletsa, 2002). Stander (2004) estimates that profitability has since fallen by 20-25% mainly as a result of the strengthening Rand. The deciduous fruit industry has experienced financial stress as a result of declining net returns caused by weak selling practices and low prices due to variable fruit quality; less consistent control; climate variability; and low labour quality and productivity (McKenna, 2000). Profitability has been declining over the past few years in the cut flower industry despite rising fresh flower sales (SAPPEX, 2004). For both Projects 1 and 3 the vineyards have not yet produced harvests so trends in profitability in the wine industry were not relevant to their financial performance over the study period (2002 and 2003). Project 3 also produced vegetables, which are characterised by highly variable net incomes.

## 4.2 Results and discussion

Table 2 presents the financial ratios calculated for four equity-share schemes in the Western Cape for the years ended 2003 and 2002. Asset values used to calculate profitability at Project 1 were based on end of year values and not average values as this project was still in its second year of operation. For the remaining projects, profitability ratios could be calculated only for the year ended 2003 because asset values were not available for 2001. Likewise, information about dividend payouts was available only for 2003. Absolute values for growth, workers' total return and wages presented in Table 2 were not estimated in real terms because data were available only for 2003. In future studies these measures should be expressed in real terms if the data are to be examined over a longer period of time. In general the overall financial performance of these four equity-share schemes during 2002 and 2003 was

poor compared to the generally accepted norms presented in Table 1. Poor performance was primarily a reflection of adverse market conditions for their main crop enterprises.

**Table 2: Financial indicators for four equity-share schemes in the Western Cape for the periods 2002 and 2003**

|  | Project 1          | Project 2                |              | Project 3                |              | Project 4                     |              |
|--|--------------------|--------------------------|--------------|--------------------------|--------------|-------------------------------|--------------|
| Enterprise type                          | Wine grapes        | Deciduous & citrus fruit |              | Vegetables & wine grapes |              | Deciduous fruit & cut flowers |              |
| Year of establishment                    | 2001               | 2000                     |              | 1998                     |              | 2000                          |              |
| Financial year                           | 2003               | 2003                     | 2002         | 2003                     | 2002         | 2003                          | 2002         |
| <b>Profitability</b>                     |                    |                          |              |                          |              |                               |              |
| Net farm income                          | -R575799           | -R394875                 | -R374463     | -R2582650                | R359771      | R553212                       | -R725737     |
| Rate of return on assets (%)             | -20.3 <sup>1</sup> | -132.3                   | <sup>2</sup> | -20.6                    | <sup>2</sup> | 5.00                          | <sup>2</sup> |
| Rate of return on equity (%)             | -41.6              | N/A                      |              | N/A                      |              | -32.4                         |              |
| Dividend return                          | 0                  | 0                        | 0            | 0                        | 0            | 0                             | 0            |
| <b>Liquidity</b>                         |                    |                          |              |                          |              |                               |              |
| Current ratio                            | 0.001              | 0.720                    | 0.421        | 0.059                    | 0.353        | 0.394                         | 0.266        |
| Interest coverage ratio                  | N/A <sup>3</sup>   | -7.242                   | -9.950       | -3.038                   | 0.701        | 1.497                         | -4.152       |
| <b>Solvency</b>                          |                    |                          |              |                          |              |                               |              |
| Debt/Asset ratio                         | 0.513              | 2.090                    | 2.375        | 1.222                    | 1.127        | 1.043                         | 1.059        |
| Leverage                                 | 1.053              | -1.917                   | -1.727       | -5.514                   | -8.904       | -31.311                       | -23.610      |
| <b>Growth (per share)</b>                |                    |                          |              |                          |              |                               |              |
| Absolute                                 | <sup>4</sup>       | -R4510                   |              | -R16550                  |              | R1452                         |              |
| Relative                                 | <sup>4</sup>       | 0.015                    |              | 0.007                    |              | -0.003                        |              |
| <b>Workers' total return<sup>5</sup></b> | R99000             | R20581                   |              | -R37987                  |              | R611524                       |              |
| Dividends                                | R99000             | 0                        |              | 0                        |              | 0                             |              |
| Capital gains to workers                 | 0                  | -R315712                 |              | -R661987                 |              | R14524                        |              |
| Total wage bill                          | <sup>6</sup>       | R336293                  |              | R624000                  |              | R597000                       |              |
| Interest received                        | 0                  | 0                        |              | 0                        |              | 0                             |              |
| <b>Wages (per month)</b>                 |                    |                          |              |                          |              |                               |              |
| Lowest wage paid to unskilled worker     | 0                  | R650 <sup>7</sup>        |              | R650                     |              | R650                          |              |

<sup>1</sup>End of year asset and equity values were used, as no 2002 data were available.

<sup>2</sup>ROA and ROE could not be calculated for 2002 because asset and equity values were not available for 2001.

<sup>3</sup>This business paid no interest in 2003 on its loan accounts.

<sup>4</sup>Business in first year of operation so no growth estimates could be made.

<sup>5</sup>Workers' total return = Total wages for the year + total dividends + total capital gains + interest received.

<sup>6</sup>Wages were not presented in the financial statements of the equity-share scheme business.

<sup>7</sup>Minimum wage is R650 per month for farmworkers in rural areas far from urban job markets (and R800 for those closer to urban areas) (Department of Labour, 2004).

Financial ratios should be differentiated into those that may be used for comparisons between schemes and those for monitoring the performance of a particular scheme. Ratios for monitoring the performance of equity-share schemes over time are leverage, profitability (ROA, ROE and dividend return), growth and workers' total return. Workers' total return should be examined over time, as there are no generally accepted norms for these ratios.

Some difficulties were encountered when estimating profitability at these projects. The ROE ratio implicitly assumes that equity is positive and is not suitable where a business experiences fluctuations in equity from positive to negative (or vice versa) because the returns will become infinite as equity approaches zero. This may be the case in new businesses where equity is low and the business experiences a net farming loss. A further problem occurs when the business experiences net farm losses and negative equity simultaneously because ROE becomes mathematically positive. The ROE values presented in Table 2 show this problem clearly because Projects 2-4 experienced farm losses and negative equity values which create the misleading impression of high returns to equity.

In some cases equity levels are low because investors inject capital as loans which are grouped with other liabilities in the balance sheet. As a result, equity levels are small and tend to become negative in times of financial stress. Project 3 is one such case because workers' equity is reported in the balance sheet as a loan from the SA Wine Industry Trust (SAWIT). While it is understandable that cash-strapped and risk-averse investors might prefer to inject their capital as loans rather than as equity, this practice seriously undermines the creditworthiness of a scheme. The fact that commercial banks granted loans to Project 3 (and others like it) shows that they are willing to finance 'black economic empowerment projects' with solvency ratios that fall well short of recommended norms. Consequently, in cases where the original owner or workers inject capital through loan accounts, the norms for profitability and solvency cannot be meaningfully applied. One 'solution' is to treat these loans as equity when computing the financial ratios. Apart from generating contrived indicators, this approach may not always be possible because audited balance sheets seldom distinguish between 'disguised' equity and other genuine loans. The ratios at Project 3 were not adjusted for 'disguised' equity. Considering the distortions created in ROE, it may be more appropriate to use the dividend return as an alternative measure of profitability. Dividends cannot be declared when equity is zero or negative so the dividend return will tend to have a lower limit of zero.

Likewise, ROA is a more appropriate measure of profitability than ROE because asset values will always be non-negative. Current market values for (improved) land must be used when calculating ROA and the debt/asset ratio. Negative ROA, caused by large farm losses, is still a meaningful measure of profitability. Project 4 had a positive ROA that was more or less equal to the average real interest rate of 5.36% for February 2002-February 2003 (SA Reserve Bank, 2004). Although the return to investment for Project 4 is positive, its debt/asset ratio of 1.043 for 2003 is not sustainable given the

ROA and cost of debt (COD) for 2003, where the COD was taken as a nominal interest rate of 15.36%. At these levels the sustainable debt/asset ratio for this project is approximately 0.333 (33.3%). ROA is negative for the other three projects. If this situation persists, their debt/asset ratios will climb and lenders will be forced to question their solvency.

Both the debt/asset and leverage ratios indicate solvency but the leverage ratio implicitly assumes positive equity values. Table 2 illustrates the problem where meaningless leverage values are obtained for businesses that experience negative equity. The application of the leverage ratio is therefore limited to (established) businesses with positive equity. Solvency ratios also become distorted when equity is disguised as debt capital (e.g. Project 3) or when assets and liabilities are not reported on the same balance sheet. It is conceivable that this may happen when a business forms part of a larger group of companies. In either instance, the norms cannot be applied meaningfully to the solvency ratios and their use should be confined to monitoring changes in a particular scheme's solvency over time. The debt/asset ratio has the advantage of producing meaningful indicators when equity is negative.

The current ratio is not affected by negative equity but its norm may not be applicable to new farming enterprises where crops require long-term investment before the first harvest. This problem is well illustrated by Project 1, a wine grape farm. This business was established in 2001 and does not expect its first harvest until 2004. As a result, the current ratio computed at the end of 2003 falls far short of the recommended norm. In such cases it is reasonable to assume that investors had planned for the cash flow problem and that the current ratio should be monitored but not yet compared with its norm. The interest coverage ratio is an alternative to the current ratio but both ratios suffer from the problem that they are static. Consideration must be given to the time of year when the ratios are computed. For example, the ratios change significantly depending on whether they are computed pre- or post-harvest. Project 1 illustrates this, where the current ratio was computed before the first harvest. Adequate assessment of liquidity in these circumstances really requires cash flow projections.

Table 2 reports growth measured in terms of absolute and relative capital gains per share. Again, negative equity renders the relative measures meaningless in Projects 2 and 3, suggesting that attention should rather be focused on the absolute measures. These absolute measures of growth should not be used to compare between schemes, but rather to track changes in growth over a period of time. Early losses at Projects 2 and 3 resulted in

negative growth during 2003 when producers of export crops felt the full effect of an appreciating Rand.

Workers' total return measures financial benefits viewed from the workers' perspective. The objective of the measure is to determine if their real aggregate earnings improve as the equity-sharing arrangement matures. This measure should account for income from wages, dividends, capital gains, other benefits such as medical aid contributions and other non-cash items, and interest received from lending to the business. The questionnaires used in the 2004 study did not require respondents to assign monetary values to 'other' benefits so they were not reported. In future, respondents should be asked to assign monetary values to these benefits. None of the projects had declared dividends or paid interest to workers (interest earned on the SAWIT loan accrued to SAWIT and not the workers). The workers' total return estimates listed in Table 2 cannot be meaningfully interpreted until further time series data are available. Nevertheless, large (unrealised) losses in equity at Project 3 resulted in a negative estimate for workers' total return.

It is likely that workers' ability to influence working conditions will increase as their joint share of total equity increases. At the same time, their incentive to demand higher wages is likely to diminish because their share of profits also grows with increased shareholding. Worker-shareholding exceeded 40% of total equity at three of the four projects discussed in this paper. There had been no demands for higher wages since 2001 at two of these three projects and at the third project wage disputes were settled by introducing a system where workers determined standards including an acceptable level of absenteeism and completion of skills training courses to qualify for a wage increase. At all four of the projects the majority of workers said that they felt the ability to influence working conditions was a direct result of acquiring shares in the scheme. The majority of respondents rated this ability as being a very important benefit of equity-sharing. This is consistent with Knight & Lyne's (2002) findings where most of the trustees interviewed (88%) felt confident that they could influence wage conditions if they chose to. Knight & Lyne (2002) also found that worker-shareholders realised that demands for higher wages could jeopardise the profits of the business so they chose not to demand higher wages.

Knight *et al* (2003) found that only one out of the nine projects they studied had declared dividends during 2001. Mayson (2003) criticised the ability of equity-share schemes to provide immediate benefits to worker-shareholders in the form of, for example, dividend payouts and additional housing benefits. Mayson (2003) argued that worker commitment to schemes that do not

provide immediate benefits would decline substantially. Although none of the four projects investigated in this study were able to declare dividends, the majority shareholders of Project 1 financed a 'dividend' of R1,000 per worker from their own pockets. These payments amounted to R99,000 and show a strong commitment to the project. Fast (1999) suggests that visible benefits should be built into every year of the financial plan and that these may include activities such as cash crop production and the setting aside of additional productive land for the private use of shareholders. At three of the four projects workers are given an additional piece of land on which they may grow their own crops or plant trees. This was not feasible at the fourth (remaining) project because workers reside off-farm. Instead, the workers are allowed to take crops for their own use with permission from the manager.

Capital gains accruing to workers reflect the real gain or loss in the value of equity held by all workers. Project 1 was in its first year of operation so capital gains were not estimated. Capital gains were estimated from annual changes in the audited net value of assets and therefore measure unrealised gains or losses. Workers are unlikely to realise losses unless they leave the scheme. Nevertheless, they should be made aware of changes in the value of their shares so that they may make informed decisions concerning their investment portfolios.

Other monetary benefits accruing to worker-shareholders included unemployment benefits through company contributions to the Unemployment Insurance Fund (UIF) and pension contributions. Some of these benefits (e.g. UIF) were in existence before the equity-share scheme was established. Other non-monetary benefits common to all four projects, as perceived by the workers, were improved tenure security, ability to influence wages and working conditions, secure employment, improved sanitation, access to telephones and access to safe drinking water.

## **5. CONCLUSIONS**

Financial ratios are a useful means for objective measurement of the financial performance of equity-share schemes. The aim of this paper was not to assess the performance of equity-share schemes but to propose a feasible set of indicators to gauge and monitor the financial performance of these schemes. To accomplish this, ratios typically recommended to measure the profitability, liquidity, solvency and growth of an enterprise were applied to financial data supplied by four equity-share schemes in the Western Cape province in 2004. This empirical analysis showed that certain financial ratios and conventionally applied norms are inappropriate for assessing the financial performance of

farms recently restructured as equity-share schemes. Problems arise because equity often accounts for a small share of the capital invested by these empowerment projects, and investments tend to be in long-term crops with high establishment costs and low initial returns. When compounded by adverse market conditions, large losses made during the early years reduce equity to near-zero or even negative levels, rendering many financial performance ratios or their norms meaningless. The practice of 'disguising' equity as loans aggravates this problem.

For newly established equity-share schemes, dividend return and return on assets are better measures of profitability than return on equity as they do not rely on positive equity. For the same reason, the debt/asset ratio is preferred to the leverage ratio as a measure of solvency, and growth is better measured by absolute rather than relative changes in the real value of shares (estimated by net asset value). The apparent willingness of commercial banks to finance empowerment projects even though they are highly leveraged suggests that the debt/asset ratio and current or coverage ratio should not be compared with recommended norms but rather monitored to gauge the performance of a particular project over time. Likewise, absolute measures of growth cannot be used to compare the performance of different equity-share schemes. Cash flow projections might give a better assessment of liquidity than either the current or coverage ratio for newly established farm enterprises.

From society's perspective, the financial performance of a project could also be measured by changes in the real aggregate earnings of its workers over time. It is recommended that workers' total returns be computed by summing the wage bill, capital gains, dividends, interest and monetary value of any other significant benefits accruing to workers in aggregate.

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