HARVESTING CONTRACTORS:
THEORY AND EVIDENCE FROM MPUMALANGA

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Abstract

A survey of 19 sugarcane harvesters in Mpumalanga was conducted in order to benchmark wage costs and tariff rates of manual harvesting contractors. The sample included 15 manual harvesting contractors and 4 individual growers employing labour to harvest their crops. Mpumalanga's manual harvesting contractors are able to harvest the crop at a lower cost than individual growers. The grower's ability to benefit from lower contractor harvesting cost is dependent on their collective bargaining power. The Sectoral Determination for Farm Workers (2002) ensures that, although contractors remove the daily management of a labour force, they do not shield growers from their employer responsibilities. The Sectoral Determination introduces contractor compliance, along with the tariff rate charged, as important factors when negotiating new harvesting contracts. Two tiers of contractors exist in Mpumalanga: (i) compliant contractors who pay a higher wage and provide superior non-wage benefits, but charge a higher tariff, and (ii) non-compliant contractors who pay a lower cash wage and provide inferior non-wage benefits, but charge a lower tariff.

Keywords: sugarcane, Mpumalanga, harvesting, contractors, benchmarking, minimum wages, Sectoral Determination, Compliance

Introduction

The sugar industry in the Mpumalanga province of South Africa has a history of utilising farm labour contractors to harvest the crop on an annual basis. Much of this history has come about due to the variety of fruit and vegetable crops that are produced within the sugarcane growing areas. The seasonal nature of and labour intensive operations involved in the harvesting of these crops and the ready source of labour from Swaziland and Mozambique facilitated the development of a mature industry. The lack of any significant barriers to entry has ensured that the industry remains extremely competitive.

At the beginning of the 2006-2007 harvesting season the Mpumalanga industry experienced a severe shortage of cane cutters, a trend that is becoming increasingly common throughout the South African sugar industry. As a result a survey on labour supply was conducted among 19 sugarcane harvesters in the Mpumalanga region. The sample included 15 farm labour contractors and four farmers. The results of the survey provided an insight into the contracting sector of the South African sugar industry.

Literature

Contractors are independent entrepreneurs who 'recruit, hire and supervise seasonal farm workers' for a fee (Vandeman *et al.,* 1991). Labour contracts are a specific form of institution, the function of which is to economise on transaction costs, particularly enforcement and

information costs (Roumasset and Uy (1980) quote Roumasset, 1974; Anderson and Hill, 1975; North, 1977; Williamson 1980).

The transaction costs approach explains the need for contracts, but does not explain the form of those contracts. An alternative theory is that institutions evolve to minimise the 'excess burden' associated with recruiting and managing labour (Roumasset and Uy, 1980). A piece rate is preferred where quality shirking is easier to monitor, and a time rate is preferred where quantity shirking is easier to monitor. In both cases the choice of contract is made so as to minimise the excess burden associated with the enforcement of the task.

The choice of contract is dependent on the nature of the work and the relative efficiencies of contractors and growers (Vandeman *et al.,* 1991). Due to their knowledge of the production process, growers have a comparative advantage in supervision of more technical tasks such as the application of chemicals. Contractors have a comparative advantage in terms of repetitive tasks, as their economies of scale enable them to minimise their excess burden.

The introduction of the Sectoral Determination for Farm Workers (Department of Labour, 2002) added additional legislation to an existing 'lump' of legislation (Murray, 2006). Goedecke and Ortmann (1993), Vandeman *et al.* (1991), Vaupel (1992) and Newman *et al.* (1997) all associated the introduction of labour legislation with an increased utilisation of contractors. Conradie (2003) in the wine industry of the Western Cape and Murray and van Walbeek (2007) in the South African sugar industry's coastal belt, found that the introduction of the provisions of the Sectoral Determination increased the use of contractor services.

Why do growers hire farm labour contractors?
Cost is a major reason for hiring contractors, although both Vaupel (1992) and Murray and van Walbeek (2007) found an interesting duality in the survey responses with regard to cost. Some growers identified cost savings as a reason for employing a contractor, whereas others identified additional cost as a reason for not hiring a contractor.

Economies of scale may explain this duality. One of the primary sources of economies of scale is in the costs associated with information. A contractor can spread the cost of the information over several growers (Polopolus and Emerson, 1991). For smaller scale growers, the contractor has economies of scale in terms of recruitment and supervision. The contractor is able to pass the advantage on to the grower (dependent on the elasticities of the industry), making the contractor's tariff relatively cost effective for the grower. Larger scale growers have the economies of scale to enable them to economise on recruitment and supervision of labour, making the contractor's tariff relatively costly.

Another reason provided by growers for hiring a contractor, is a reduction in the administrative burden of employing labour (Vaupel, 1992; Murray and van Walbeek, 2007). As labour legislation has been extended to agriculture the administrative burden on growers has increased, adding costs to the management of labour (Newman *et al.*, 1997). Growers benefit from the contractors' economies of scale.

Murray and van Walbeek (2007) found that the most common reason provided by growers for employing a contractor was to remove the stress of managing labour issues, which were broadly defined as those compliance issues that place increasing responsibility on growers. Polopolus and Emerson (1991) suggest that growers modify their organisations to minimise the risk posed by 'society's laws and sanctions'. The contractor assumes the risk of sanctions, thereby protecting the grower and allowing labour to be treated as any other input (Goedecke and Ortmann, 1993; quote Vandeman, 1988).

Methodology

The methodology used in conducting the survey involved consultation with both growers and contractors. The structure of the Mpumalanga sugar industry is such that the daily rateable deliveries (DRDs) of growers are pooled into various regional cutting groups. Each cutting group has a cutting co-ordinator who is an intermediary between the contractor and the growers. Each cutting group negotiates a contract with a contractor on an annual basis, or directly hires labour to harvest their crop.

At the beginning of the 2006-2007 season DRDs were not achieved by the cutting groups, with a shortage of cane cutters being identified as the primary reason. The two Mill Group Boards in Mpumalanga initiated a consultative process to investigate the reasons for the shortage of cutters. The consultative process involved both growers (principals) and contractors (agents).

The lengthy process produced an important outcome. Competition for tenders was based on price alone, with no cognisance of quality, cutter wages or legislative compliance. A benchmarking exercise was required to provide growers (and contractors) with the information upon which to negotiate future contracts.

A survey instrument was adapted from previous work (Murray, 2006), and was distributed either at the consultative meetings or via fax to all cutting groups. Due to the sensitivity of the information, undertakings were made to preserve the confidentiality of the information by ensuring that the information was collected and collated by staff of the South African Cane Growers' Association.

Sample

Since the cutting groups are regionally distributed, it was important to ensure that each sample was representative of the entire region. Although the majority of the responses were from the Malelane region, Table 1 illustrates that each region was represented.

Table 1. Regional distribution of respondents.

Region	% (n)
Malelane	37% (7)
Barberton/Nelspruit	11% (2)
Komati	32% (6)
SSG areas	21% (4)

Table 2 provides a brief summary of the sample. Over 25 000 hectares and 2.2 million tons of cane were included in the sample. It is important to note that 2 800 cutters were included in the survey. The sample was regionally representative and was well representative of the Mpumalanga sugar industry.

Table 2. Sample summary.

Component	% (n)	Total	Median
Area	74% (14)	25 221.1	1 168.9
Tonnage	68% (13)	2 270 736	108 252
Permanent cutters	21% (4)	75	6
Seasonal cutters	89% (17)	2 725	120

Results

Cash wages

One of the most important results of the survey was to be able to benchmark wages. This is a relatively complicated process due to the number of different payment systems used.

All respondents paid a simple piece rate wage linked to the amount of chains cut. Chain lengths vary between 12 and 20 m, with the most common chain length being 18 m. Six rows of cane are cut and laid in rows and then topped to form windrows. The area cut is measured using the Geographic Information System area of the field (ha) and row width to determine the total length of rows within the field. As six rows form a windrow, the total length of windrows within the field is established. Productivity in terms of area cut is measured by length of chain and a rate agreed between contractor and cutter on a per chain basis.

Alternatively, a rate is paid per task, which is completed when an agreed number of chains have been cut. The rate and the chain length were used to derive a wage rate per metre of windrow (see Table 3).

Table 3. Cash wage per metre of windrow.

	Burnt cane	**Seedcane**	**Lodged cane**
% (n)	100% (19)	79% (15)	74% (14)
Ave (R/m)	R0.40	R0.49	R0.45

The average wage for burnt cane is R0.40 per metre. The survey responses for seedcane and lodged cane were somewhat less than for burnt cane. The highest wage is paid for harvesting seedcane, and harvesting of lodged cane is paid at a higher rate than burnt cane. All wages and tariffs are displayed in 2006 Rand values.

Total wages

Table 4 provides insight into the total wage cost of labour. Total wages are a sum of cash wages and benefits. The table illustrates that, in addition to the cash wage, 68% of respondents provide housing for staff at an estimated average cost of R88 per person per month. Where less than three respondents were able to estimate the cost of providing a particular benefit, the estimated value of that benefit was omitted.

Table 4. Cost of benefits.

Benefit	Yes % (n)	Average cost/person/month
Housing	68% (13)	R87.86
Water and electricity	58% (11)	R28.57
Protective clothing	74% (14)	R16.27
Transport	95% (18)	R99.93
Medical insurance	32% (6)	R20.67
Funeral cover	16% (3)	n/a
Pensions	11% (2)	n/a
Crèche	26% (5)	n/a
Food	32% (6)	R35.00
Other	11% (2)	n/a

The quality of the benefit was not taken into account in this analysis. Where a benefit was provided at the cost of the employer (rather than deducted from the employees wages), and the employer was able to estimate the cost of that provision, the data was included in Table 4.

Tariffs

Contractors quoting per hectare or per ton rates complicate the tariff structure surrounding the Mpumalanga sugar industry. The various tariff structures were evenly distributed, with one contractor listing both a per ton and per hectare tariff (Table 5).

Table 5. Tariff rates for cane harvesting.

	Burnt cane		Seedcane		Lodged cane	
	R/ha	R/ton	R/ha	R/ton	R/ha	R/ton
% (n)	53% (8)	53% (8)	20% (3)	20% (3)	27% (4)	33% (5)
Average	R926.53	R8.57	R1 053.37	R11.00	R940.13	R8.84

Unfortunately, the average displayed in Table 5 is a pure average rather than a weighted average. Those contractors that harvest for more than one cutting group and have varying tariffs for each cutting group were captured as one average tariff. A weighted result would have been possible had the tariff and total tonnage harvested been captured separately for each cutting group. As expected, the tariff for seedcane was the highest and for burnt cane the lowest.

The differing tariff rate structures provide an interesting matter for negotiation between growers and contractors. A per hectare tariff benefits high yielding growers over contractors, but benefits contractors over low yielding growers. Although a per ton tariff is more accurate, contractors dislike the tariff when harvesting poor yielding fields as their wage structures are based on area (chains) harvested. In a low yielding field where cutter productivity is high in area terms, the contractor's marginal costs may exceed marginal revenue.

Why do growers hire contractors?

The sample provided an opportunity to investigate the reasons why some growers hire contractors. The literature proposes three reasons: (i) cost, (ii) reduction in administrative burden, and (iii) removal of the stress of managing labour issues. These can be investigated using the sample.

Cost

A simple method of comparing the cost of harvesting between a grower and a contractor is achieved by comparing their wage cost per metre of windrow. Goedecke and Ortmann (1993) and Vandeman *et al.* (1991) found that wages under contractors are lower than under direct hiring. This is supported by Table 6, which shows the wage cost of contractors is lower than that of growers.

Table 6. Comparison of wage cost.

	Contractor (n=15)	Farmer (n=4)
Cash wage per metre of windrow	R4.96	R5.83

It may be through a comparative advantage in enforcement that contractors are able to achieve this wage advantage. Contractors are able to influence work effort by raising the cost of job loss among new entrants and foreign workers (Vandeman *et al.*, 1991). The threat of job loss for vulnerable employees (new entrants and foreign workers) also creates an incentive not to shirk.

While Table 6 provides an analysis of relative *pro rata* wage costs, it does not provide an answer to whether or not the use of a contractor is a more cost effective means of harvesting than direct hiring. The cost faced by the grower is not the pure wage cost per metre of windrow, but rather the contractor's tariff set against the grower's total wage cost of labour added to non-wage costs. More detailed information is required to provide a definitive answer.

Administrative burden
The hiring of a contractor does remove the daily administrative responsibilities associated with being an employer. The contractor has the benefit of economies of scale by spreading the administrative load over a number of smaller farms. This allows the grower to focus on the core aspects of managing the farming enterprise.

The grower's ability to benefit from the economies of scale available to a contractor is dependant on the elasticities associated with the relationship between grower and contractor and their collective bargaining power. It is likely that, in an extremely competitive industry where the competition for tenders is based on cost alone, an inelastic relationship will exist between principal and agent. In this case the cost will be transferred to the grower.

Compliance
During the survey consultative process, the issue of contractor compliance was raised. As competition for tenders for harvesting contracts appeared to be based on cost alone, the contractor bearing the additional fixed costs of compliance lost out to cheaper, non-compliant tenders.

The importance of the compliance of the contractor is outlined by the Sectoral Determination for Farm Workers 13: 33(3) (Department of Labour, 2006):

> *"The employment service and the client are jointly and severally liable*
> *to comply with this determination with respect of its farm workers."*

The hiring of a contractor does not shield the grower from the responsibilities of being an employer. The grower and the contractor are both liable for ensuring that the contractor is compliant with respect to labour practices.

When the compliance of the contractor is directly linked to that of the grower it is important to determine the correlation of compliance and cash wages, and compliance and tariffs. As the survey did not directly query compliance due to an expectation of spurious results, the provision of benefits is used as a rough proxy for compliance.

Newman *et al.* (1997) showed that growers who paid a lower cash wage offered higher non-wage benefits and *vice versa*. This is expected, as the marginal cost of each employee (total wage) comprises the sum of cash wages and benefits.

Table 7 shows that the respondents that provided non-wage benefits also paid a higher cash wage. This is counterintuitive and difficult to explain without concluding that two tiers of contractors exist in Mpumalanga: (i) compliant contractors who pay a higher wage and provide more non-wage benefits, and (ii) non-compliant contractors who pay a lower cash

wage and provide fewer benefits. It is likely that the latter contractors are responsible for the 'generally unsavoury reputation' of contractors (Vaupel and Martin, 1986).

Table 7. Relationship between compliance, wages and tariffs.

	Benefits provided	**Benefits not provided**
(n=19)	42%	58%
Cutter wage (R/m)	R0.4050	R0.3948
(n=15)	33%	67%
Tariff (R/t)	R9.87	R9.14

Table 7 also shows that those respondents that provided non-wage benefits charged a higher tariff. The tariff used in the derivation of Table 7 is a per ton tariff; the conversion from a per hectare to a per ton tariff was calculated at 90 t/ha. This result is as expected, in that respondents who pay a higher real wage charge a higher tariff. This implies that a portion of the benefit provided to the contractor in the form of a higher tariff, is in fact passed on to the cutter in the form of higher cash and real wages.

Conclusions

The survey of manual harvesters in Mpumalanga was conducted to benchmark wages and tariffs in an extremely competitive industry. Total wages of cane cutters comprise cash wages and non-wage benefits. The cash wage paid per metre of windrow is highest for the harvesting of seedcane and lowest for burnt cane. As expected, a similar trend is found in tariff rate structures, where the tariff for seedcane is highest and burnt cane lowest.

Literature suggests that some of the major reasons for hiring a contractor are cost benefits, the administrative burden and the stress associated with being an employer in South Africa. Contractors are able to harvest the crop at a lower cost than growers. This is not the complete picture. The cost borne by growers is not the rate at which contractors are able to harvest the crop, but rather the tariff charged. Similarly, hiring a contractor does remove the day-to-day issues associated with being an employer, but the cost of the administrative burden is transferred to the grower.

Economies of scale are available to the contractor in terms of information and enforcement costs in terms of the cost of harvesting and the administrative burden. Whether these benefits are transferred to the grower is dependent on the elasticities governing the relationship between principal and agent. The extent to which the grower is able to benefit from these economies is dependent on their collective bargaining power.

The Sectoral Determination introduces contractor compliance along with the tariff rate charged as important factors when negotiating new harvesting contracts. Two tiers of contractors exist in Mpumalanga: (i) compliant contractors who pay a higher cash wage and provide superior non-wage benefits, but charge a higher tariff, and (ii) non-compliant contractors who pay a lower cash wage and provide inferior non-wage benefits, but charge a lower tariff.

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