

A survey of market vendors in a rural township

Could more schooling assist rural market vendors?

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Abstract. *This paper begins investigation of the effects of attainment of basic schooling on income earnings of middlemen entrepreneurs in an informal sector. Data for this study were collected through a random survey of market vendors in Labasa, a rural township on the second largest island of Fiji. Non-parametric tests used to look for an association between schooling and rate-of-return as reflected in income earnings established that in a sample of Labasa market vendors there was a statistically significant association between the attainment of basic schooling and income earnings of middlemen entrepreneurs. Human capital theory is suggested as a source for possible explanations of the observed phenomenon. In most studies of rate-of-return, emphasis has been placed on the relationship between schooling and earnings of wage earners. This study, however, takes the slightly different approach of looking for a possible association between schooling and success in self-employment. The positive result points to the need for more research to investigate the bases for this association. Much more needs to be understood about socialisation, formal and informal education, information dissemination and successful entrepreneurship. The findings of such follow-on research could be of relevance to government policies on education, employment and job creation through self-employment.*

Terms. *schooling; rate-of-return; human capital theory; informal sector; middlemen entrepreneurs; purchase decision process; perceived risk; rural self-employment; chi-square; Spearman's rank correlation coefficient.*

Introduction

OF THEIR many problems, one serious one that Third World countries share to some degree with the developed countries is the high rate of unemployment. It has often been urged that one way of alleviating this problem might be to generate self-employment in the informal sector.

This preliminary study seeks to establish whether there is a relationship between education and the earnings of middlemen entrepreneurs. The data were collected from Labasa, a rural township in Vanua Levu, the second largest of the Fiji Islands. Interest in the descriptive possibilities of the human capital model provided the background for the formulation of the research problem; the model is also suggested as a possible framework for further investigation of such a relationship.

The survey

HUMAN capital theory argues that education is a productive asset that leads to increased production and higher earnings. Some theoretical considerations associated with this are noted more fully later in this paper. For the present it is sufficient to wonder whether this increased productivity and earning power is also evinced amongst those with some schooling who are self-employed in the activity of market vending.

In most empirical studies on human capital theory, emphasis has been placed on educational levels and the earning power of wage workers. Very little, if any, research has been done on human capital development and earnings of those who are self-employed. As a starting point, this survey seeks to establish whether there is any observable relationship between literacy and the relative earnings of middlemen entrepreneurs in this rural market setting. (Sugar is a major export of Labasa though the hinterland also has large stands of indigenous tropical timber and introduced pine that are exploited. To the south of Labasa the town of Savusavu has a copra mill serviced from large copra estates spread around the town and the neighbouring island of Taveuni.) The vendors surveyed were categorised as literate or illiterate on the basis of number of years of schooling completed, with no assessment of the 'quality' of their literacy or education.

As education is a critical variable in this study, a brief introduction to the school system in Fiji is in order. Most schools since the Colonial days have been operated by local communities and tend to be uni-racial. At the end of 1985, there were 668 primary schools, 139 secondary schools, 42 vocational schools and 244 preschools. Free and partly free education (based on parental income) was introduced in 1957. All students in classes 1—8 have received free education since 1958 (Douglas 1989,94).

The middlemen market vendors in the sample had a mean age of forty-three years, which would mean that in 1956–1957 this cohort group was attending primary schools, partly on the basis of self selection and partly depending on the parents' ability to pay. Entry to primary schools was age-based, the minimum being six years. Although most vendors in the sample were eligible by age to have entered grade one by 1956, a significant number of the entrepreneurs who were over forty-three years of age did not attend school in 1956 because government did not provide free primary education at that time and their families could not afford it.

It was necessary to establish first whether or not literate entrepreneurs (albeit crudely so defined) actually do receive relatively higher earnings than their illiterate counterparts. For the limited purposes of this survey the following hypotheses were put forward:

- H0: That there is no significant directional relationship between literacy and net earnings of middlemen entrepreneurs.
- H1: That there is a significant positive relationship between literacy and net earnings of middlemen entrepreneurs.

Rejection level: 0.05

Method

FIFTY market vendors were randomly selected in Labasa market. Most respondents were between 26 and 65 years of age. The sample was drawn from the two major ethnic groups living in Fiji, ethnic Indians and ethnic Fijians.

Data were collected in September 1993. A questionnaire was used to collect information on age, sex, ethnicity, education level attained, residence, crops sold and the net weekly earnings. Questioning on education focused only on the number of years of schooling completed and the question on income was broken down to net earnings per day. The questionnaire also had questions on crops bought and sold, together with their buying and selling prices. There were questions, too, on the most profitable crops and the problems the middlemen market vendors felt they faced.

At the end of each interview, the questionnaire was checked for consistency and completeness. There were no refusals so non-response was not a problem.

Non-parametric tests were used in data analysis because their requiring a minimum of assumptions reduces the chance of their being improperly used. Further, the non-parametric statistics are useful for count and rank data used in this research. Since the hypotheses to be tested also do not involve a population parameter, the use of non-parametric tests like chi-square and Spearman's rank was quite appropriate here, where the primary concern was simply to check the existence of an association between literacy and income of the middlemen entrepreneurs in the rural market place.

The basic distinction drawn here between literate and illiterate middlemen entrepreneurs was assigned, somewhat simplistically, on the basis of the number of years of schooling completed. Respondents with no or less than five years of schooling were considered illiterate while those with five or more years of schooling were considered literate. This crude distinction, which takes no account of qualitative dimensions, is a little different from the official definition, which distinguishes the two groups on the basis of three years of schooling. I have operationalised literacy on the basis of five years because in rural areas of Fiji, students are often not able to read and write confidently until they have reached at least grade 5. Furthermore, this definition takes account of the fact that what is being measured is ability to read and write in English rather than one of the local languages: for most of these respondents the first language is not English but an Indian language (probably but not necessarily Fiji Hindi) or a Fijian dialect (probably not Bauan).

'Net earnings' in this research means the net profit from buying and selling produce from Monday to Saturday inclusive, there being no

Sunday trading in Fiji. In effect, it has been operationalised as the difference, in Fijian dollars, between the total weekly amount of money spent on buying and selling produce.

Results

TABLE 1, which presents the frequencies (number of cases) and percentages of the respondents' years in school, and the mean net weekly earnings, demonstrates that those with fewer years of schooling did in fact earn lower incomes: respondents with fewer than five years of schooling had a mean weekly earning of \$103.90 whereas respondents with five or more years of schooling had a mean weekly income of \$168.30.

Table 1 **Education and earnings of 50 Labasa market vendors, September 1993**

Years in school (grade completed)	Frequency (f)	Percentage (%)	Mean net weekly earnings (F\$)
0-4	26	52	103.90
≥ 5	24	48	168.30
Total	50	100	134.80

In order to see if this difference was significant, the data were subjected to chi-square analysis. The cross-classification of years of schooling was as follows: a cell with 0-4 years of schooling was labelled 'illiterate middlemen entrepreneurs' while a cell with 5 or more years of schooling was labelled 'literate middlemen entrepreneurs'. The earnings section was divided into two categories, under \$150 and over \$151. The value of chi-square ($\chi^2 = 4.2$, d.f. = 1, $p = 0.05$) revealed significant differences. These results suggest that a strong association exists between years of schooling and weekly earnings of the petty middlemen entrepreneurs in Labasa township.

The data were subjected to a further analysis to gauge the direction and the strength of the relationship between years of schooling and weekly earnings. This analysis was performed using the Spearman's rank correlation coefficient. It was found that there was a significant positive relationship at the 0.05 level between years of schooling and net weekly earnings. It is therefore concluded that the longer the years of schooling the greater the net earnings.

In light of these values of chi-square and Spearman's rank correlation coefficient, the null hypothesis may be rejected and the alternate (research) hypothesis—that there is a significant positive relationship between literacy (over five years of schooling) and net mean weekly earnings of petty middlemen entrepreneurs—be accepted at the 0.05 significance level.

Theoretical background

MUCH HAS already been written about the human capital model since it was first proposed by Schultz (1961) and developed by Mincer (1962) and Becker (1964). Human capital theory treats education as a productive asset similar to physical capital. It is argued that education leads to increased production, which in turn is reflected in increased earnings of educated workers. The overall benefit of education is viewed here as an investment that can be sold in the competitive market.

Crucial to an understanding of human capital theory is the concept of rate-of-return. Rate-of-return analysis treats education as a productive investment that tends to improve the work performance and overall productivity of an individual. In other words, education is viewed as a product, 'produced' through a process of saving and investment. An underlying assumption of the rate-of-return thesis is that education increases the marginal productivity of educated workers relative to uneducated ones.

Many empirical studies have been undertaken on the rate-of-return thesis (Blaug 1976, 1967; Davis 1980). In these studies, rate-of-return to education is evaluated as an investment that tends to increase earnings.

There are a number of shortcomings with the rate-of-return thesis and human capital theory in general. The rate-of-return to education cannot, for example, be the only factor to account for differences in

earnings; variations in earnings will also be affected by differences in individual abilities, socio-economic backgrounds, hours of work and so forth. In light of this, attempts have been made (Denison 1964; Becker 1964) to estimate the degree to which earnings are in fact accounted for by schooling. These studies have ascertained that approximately two-thirds of the differential in earnings may be explained by education (Davis 1980). Based on this finding, the rate-of-return to education could be adjusted by multiplying earnings by a coefficient of 0.66. This is called the alpha coefficient, and its corollary ($1 - \alpha$) would therefore represent everything other than education.

The rate-of-return approach has also been criticised for failing to show *how* education is conceptually linked to earnings. Questions raised in relation to this argument are: how does education lead to learning? how does it improve job performance? how does it increase output? how does it increase earnings? and so forth. There are to date no satisfactory explanations to these questions.

Human capital theory in general has been criticised on a number of other grounds including its tendency to ignore the non-economic benefits of education, make unrealistic assumptions about competitive markets, exaggerate the importance of formal education, and under-emphasise differences in curriculum content and methods of teaching. Differences in earnings resulting from the different aspects of the economy are also not considered in the theory.

The fundamental question of whether or not education indeed raises incomes and, if so, how, has also not been satisfactorily resolved. Human capital theory asserts that education raises incomes by producing relatively more productive workers whose marginal productivity is rewarded in competitive labour markets. This argument has been challenged: first, because the qualities that are rewarded by high earnings may be the very qualities that lead to the differences in educational attainment; and second, because labour markets may not in fact be as competitive as human capital theory claims.

Despite these shortcomings, human capital theory could provide a useful framework for pursuing the issue of the effect of education on earnings. There have been some excellent empirical studies undertaken on this and related issues that merit some comment here.

For instance, Merrick (1976) found that an important source of employment for the unskilled and uneducated was the informal sector of

Belo Horizonte in Brazil. A characteristic feature of this sector was a relatively large number of self-employed. Liu and Wong (1981) analysed wage variations among Chinese manufacturing employees in Singapore in terms of their human capital investment. They found human capital theory a useful framework for analysing the interrelationship between income growth and income inequality. Trzcinski and Randolph (1991) examined the determinants of relative earnings in Malaysia over the ten-year period 1967–1976 in the context of human capital development. Their finding was that men in Malaysia could affect their relative earnings and relative mobility through individual initiatives. It was found too that once an individual had entered the labour force, further investments in human capital did little to protect or improve relative earnings. Gaston and Tenjo (1992) studied educational attainment and earnings of part-time wage earners in Colombia and found that individuals who chose schooling (self-selection) had a higher rate-of-return to schooling than those with less schooling. They reported that the average rate-of-return is highest among individuals with primary education.

Pacific markets have also received a lot of research attention (see, for instance, Chandra 1980; Brookfield 1969; Belshaw 1965; Epstein 1961) but these studies have been idiographic in nature with a focus on the nature and origins of the goods and services in the Pacific towns.

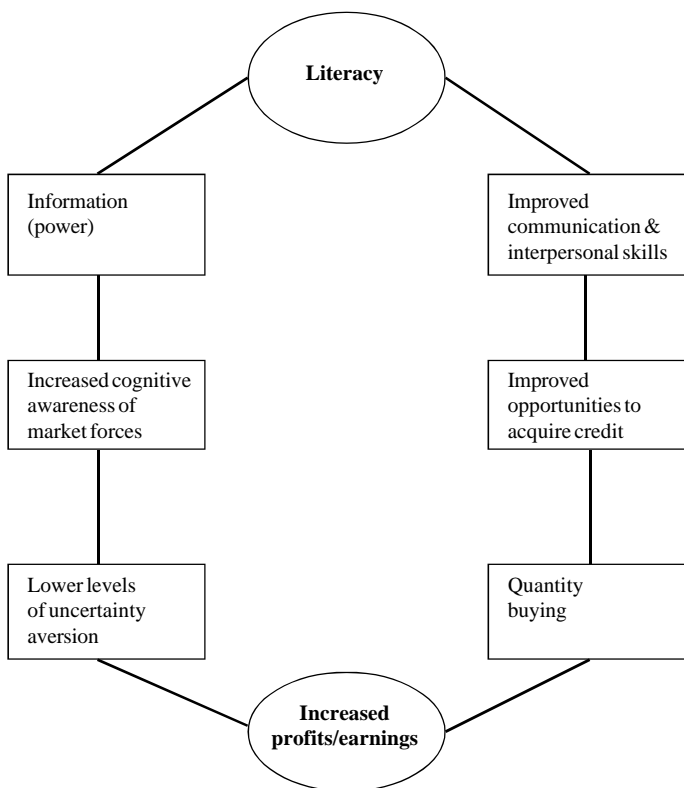
In most empirical studies on human capital theory, emphasis has been placed on education and earnings of wage workers. Very little, if any, research has been done on human capital development and earnings of the self-employed. The present study is far more unusual in focusing on the self-employed petty middlemen entrepreneurs who operate as market vendors, and more specifically, on the effects of literacy on their relative earnings.

As noted, middlemen entrepreneurs were categorised into literate and illiterate ones and it was hypothesised that literate entrepreneurs would receive relatively higher earnings than their illiterate counterparts. It was surmised that this may be a result of literate entrepreneurs having access to a lot more information about the market forces, especially on such matters as consumer preferences and sensitivity to the pre-purchase decision making process. Thus, with a greater relative awareness of the subtle market forces, the literate middleman entrepreneur is in a better position to reduce uncertainty of the sale and purchase of goods (especially perishable market produce). The ability to read and write enhances communication and interpersonal skills, which in turn helps in securing

credit from financial institutions for ‘quantity buying’ at a cheaper price. In short, all these different acts would help in reducing uncertainty and assist a literate entrepreneur in making a profitable use of the ‘purchased uncertainty’.

Conceptually the relationship between literacy and earnings is illustrated in figure 1.

Figure 1 **The relationship between literacy and earnings**



The hypotheses tested in this study assume a new significance when viewed against the background of such theoretical and conceptual considerations.

Discussion

THIS STUDY indicates that education operationalised in years of schooling has an effect on the mean weekly earnings of petty middlemen entrepreneurs. Amongst the entrepreneurs singled out in this study, it was found that illiterate Labasa market vendors with less than five years of schooling did in fact earn significantly less than those who had over five years. While differences between the earnings of the literate and the illiterate market vendors were significant, the earnings of both groups compare favourably with employees in other industries in Fiji. The mean daily wage of wage earners by industry groups for 1993 are given in Table 2.

Table 2 Mean daily wages by industry groups, 1993 (F\$)

Agriculture	\$11.92	Commerce	\$12.08
Mining	\$13.04	Transport	\$14.56
Manufacturing	\$11.36	Service	\$13.04
Electricity	\$15.60	All Industries	\$12.64
Construction	\$13.92		

Source: *Current Economic Statistics*, October 1993, Fiji Government Bureau of Statistics, Suva.

By way of comparison, the mean daily net earnings of the market vendors calculates out at \$22.47. In other words, the market vendor earns appreciably more than the average employee in all industries (\$12.64) and almost twice as much as the workers in the manufacturing sector. This finding is similar to that of Hart (1993), who studied economic activities of the low income earners in Accra in West Africa. He reported that the incomes of the unskilled, illiterate migrants in Accra compare favourably with those of employees in the formal sector. In a similar study, Isaac (1981) found that petty trading was a viable and thriving economic activity in Sierra Leone.

According to the theory, it is possible that literacy contributes to the increased earnings of petty middlemen entrepreneurs by giving them access to a lot more information about the market, so that they have lower

levels of ‘uncertainty’ aversion to it. Perhaps the literate entrepreneur is more knowledgeable of pricing and availability of commodities from a larger geographical area. In short, because of his ability to read and write, a literate entrepreneur is better able to extract profits from ‘new unique and valuable combinations of resources in an uncertain and ambiguous environment’ (Amit and Glosten 1985: 816). Given the paucity in print of regular information of this type about local (Labasa) conditions and the relative isolation of Labasa from the world’s mainstream marketing activity, this possibility may have only limited use as an explanation in this case.

What is much more apparent is that since the relationship does seem to exist, there is great need for further investigation to clarify the following types of problems:

- A basic primary education of the type predicated here is unlikely to have given *specific* preparation and training for operation as a successful market vendor. The complex relationships between individual abilities, curriculum content, extra-school experiences and whatever it is about schooling that influences the way in which the mind functions are all open-ended questions that deserve closest attention.
- In the development of successful market vendors, it is quite likely that ‘training’ and tips from experienced relatives and friends who are already ‘market wise’ in the operations of this arena are of far greater significance in the shaping of the next generation of vendors than is anything that happens on the bumpy road to basic literacy. This is also an area deserving of much closer investigation.
- There is need for some qualitative questioning of the respondents. It cannot simply be assumed that ‘they have access to a lot more information about the market’ because they have learned to decode print. We need to know more about what use they make of their literacy; what reading matter is available to them and whether they use it; whether there is a causal connection between the higher earnings and the literacy, or whether the earning ability is linked with some kind of educability factor so that this group of respondents who by good fortune were able to attend school for some years are also able to succeed in the market sphere; or other possible explanatory factors.

Obviously, the findings of this study have policy implications that extend to policies about school curricula, school availability, informal education, fostering of self-employment, and much beside. With scarcity of paid employment in urban areas of the Third World, it appears that one way out of this dilemma would be for governments to assist people in getting involved in their own businesses, especially those that require little capital outlay for successful operation.

Conclusion

IN THIS research, I have analysed the variations in the earnings of petty middlemen entrepreneurs in an informal sector in the context of human capital theory. Where previous studies of the rate-of-return to schooling have focused on wage earners, this one has chosen to look at rate-of-return to schooling of petty middlemen entrepreneurs and has conclusively shown that years of schooling has a positive effect on their earnings.

It was found that literate middlemen entrepreneurs were able to earn by market vending significantly more than the illiterate ones. It is suggested that the differences observed here may possibly be due to greater awareness of pricing, consumer preferences and the market forces at large, though this question requires a great deal more research before any firm answers can be given. Middlemen entrepreneurs who are able to read and write would, through newspapers and other reading materials in circulation, have relatively more information for efficient performance in the competitive market.

The finding of this research could have important implications for government policies that impinge on education and employment. Further research could explore variations in rate-of-return to schooling of wage earners in the different sectors of the economy. In addition, a great deal more needs to be known about the relationship of schooling to adult life, and in particular about how the school curricula could contribute more to the preparation for effective self-employment outside the regular wage market.

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