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How Much do Village Libraries Increase Reading? 
Results from a Survey of 10th Graders in Burkina Faso

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Abstract: This paper offers an estimate of the impact of small public libraries in villages in Burkina Faso on reading habits. A survey of secondary school students was conducted in March 2005. Students were selected in eight villages that constituted matched ‘with library’ and ‘without library’ samples. The results indicate that the presence of a well-functioning library leads to an increase in reading on the order of 50%.
Introduction

There is growing recognition of the importance of access to books in improving the reading abilities of secondary school students in Africa, yet little is known about how much reading habits are affected by access to reading material. In developed countries, such as the United States and England, a handful of studies have estimated increased reading and improved reading performance resulting from access to reading material, for a variety of grade levels (Zweizig, Robbins et al. 1988; Neuman 1996; Neuman 1999; Lance, Rodney et al. 2000; Fisher, Lapp et al. 2001; Williams, Coles et al. 2002). For developing country settings, significant positive effects of ‘book floods’, where large numbers of books were made available in primary school and daycare establishments to children who did not have access to books in their home environment, have been found (Elley, Cutting et al. 1996; Elley 1996). The International Association for the Evaluation of Educational Achievement’s world-wide survey of reading abilities in 40 countries found that for students in the fourth year of school, access to books at home was strongly correlated with performance on a standardized reading test (Mullis, Martin et al. 2007).

In West Africa, improved access to textbooks has a clear impact on school performance, given the very low ratios of textbooks to students (Michaelowa 2002). Little research, however, has been conducted on the impact of access to books on leisure reading habits, for any grade level, and in fact several commentators have remarked on the absence of survey results and statistical analyses on this question (Olden 1995; Issak 2000; Mostert 2001; Mulindwa 2001). A few papers report results from very small samples or from single communities and thus do not
permit measurement of the effects of access on reading habits (Rosenberg 1998; Gallagher 2001; Arua and Lederer 2003; Machet 2004; Yannotta and Dent 2005). These papers typically find very low levels of reading, even in countries with high rates of schooling enrollment.

One reason for the absence of studies on the effects of libraries in Africa is that in general public libraries have been in a sustained decline (Zaaiman, Roux et al. 1990; Rosenberg 1998; Marton 2000; Dlamini 2003). Libraries established by colonial regimes languish under-utilized with outmoded, irrelevant books and intermittent service (Odini 1998; Mostert 2001). Most commentators agree with the pessimism expressed by Isaak (2000, p. 3)

The synthesis of literature quoted in the bibliography and the country reports portrays the public library movement in Africa as being very weak, with numerous problems regarding financial constraints, lack of human resources, outdated materials and poor use. The only sector of the African population that uses public libraries is school children. However, each country report illustrated that children do not use the materials held in the library but use libraries primarily as places for study, because they are quieter and more spacious than their homes. That students primarily use libraries as places to study, rather than to read, reflects the often poor and outdated selections of books available. When relevant books are available, they may be read and have more impact.

Establishment and provisioning of new libraries, or refurbishment of old libraries, is a neglected activity in development work. Funding and policy regarding libraries have lagged behind the impetus to ensure universal primary education in developing countries, one of the centerpieces of the Millennium Development Goals sponsored by the United Nations. The recent expert report prepared for the United Nations Millennium Project listed seventeen ‘quick
wins’ for reducing poverty (Sachs 2005). Several of them related to improving schooling outcomes, among these free school lunches and de-worming programs. Provisioning libraries was not included in the ‘quick wins’. Libraries were only mentioned once in the 300 plus page report, and that in a long appendix listing hundreds of development activities.

Pinning down the reasons for the neglect of public libraries in Africa is difficult. The bias against library projects is reinforced by a vicious circle: public libraries are dysfunctional, so few children use them for reading, so there is little support for new libraries, so half-way library projects are implemented instead of serious projects, and these result in little increase in readership, and so the expectation that libraries serve little purpose is reinforced.

Perhaps this vicious circle can be broken by more careful academic research into the impact of libraries when they are well-functioning. Without adequate estimates of the contribution of rural public and school libraries in developing countries, advocates are unable to make the strongest possible case for renewed attention to libraries.

This paper reports on a small survey designed to measure the impact of village libraries on reading habits. The focus is how libraries impact 10th graders (the equivalent of the French system’s 3ème level) in terms of their reading habits. The 3ème level in Burkina Faso is a crucial juncture in smaller towns and villages in the French-based educational system. At the end of the 3ème level students take a national exam that determines whether they are admitted to the last two years of high school (at the end of which they are awarded the ‘BAC’). Many students, even those eligible, stop their schooling at 3ème level (the ‘BEPC’ level) because they or their parents view the benefits of continued schooling as being low. One of the reasons for the perception of low returns to schooling is the perception that schooling quality is low because of the absence of complementary inputs, especially books, study materials and study places.
Reading in Burkina Faso

Burkina Faso, a small land-locked country of approximately 14 million persons in West Africa, is one of the poorest countries in the world. In 2005, gross domestic product was about $1200 per person in Purchasing Power Parity adjusted dollars. The very low literacy rates, with just 25% of adults literate (15% for women and 35% for men) and approximately 45% of school-aged children enrolled in primary school (40% for girls, 50% for boys), mean the country has consistently ranked near the very bottom of the United Nations Development Program’s Human Development Index (HDI).

In recent years the government has made significant efforts to expand the availability of public schooling in rural areas, and encouraged the rapid growth of private schooling in urban areas. Nevertheless, general literacy and a reading culture are far from having been established. There are only a few bookstores in the country, and informal book kiosks are poorly supplied. The great majority of villages have neither libraries nor bookstores. Newspapers rarely circulate outside of Ouagadougou and handful of other cities. Few books are published locally or with the local audience in mind. Purchasing a book is simply out of reach for most village parents. Schoolchildren rely on copying lessons from the blackboard due to the expense of schoolbooks. With adult literacy of 25%, few parents have attended school and are thus unable to encourage a reading environment in the home.

There are very few public libraries in Burkina Faso. The capital Ouagadougou has no proper branch libraries, and the national library is only beginning to develop its services. The reading public of Ouagadougou is instead served primarily by the French and American Cultural Centers, whose large libraries are located in the center of town and are primarily used by
secondary and university studies. Many secondary schools in Ouagadougou have libraries for their students, but few primary schools have libraries. There are no neighborhood libraries in Ouagadougou. The second largest city, Bobo-Dioulasso, in southwestern Burkina Faso, likewise is served by the library of the French Cultural Center, and a small district library funded by the American embassy. The country has are forty-five rural libraries, located in large villages and small towns scattered throughout the country, established in the 1980s and 1990s. These libraries are known variously as Centres de Lecture et d’Animation Culturelle (CLAC) and Bibliothèques Communales de Lectures Publiques (BCLP). The 17 CLAC were established with grants from the Agence Intergouvernementale de la Francophonie (AIF), and the 28 BCLP were established with bilateral grants from France to Burkina Faso. The 45 libraries are currently coordinated by a national center in the Ministry of Culture, known as the Centre National de Lecture et d’Animation Culturelle (CENALAC). For these 45 libraries, there is considerable variation in the degree of accessibility for the local population and the extent of their collections. Many have yet to realize their potential, existing as rooms in the public education administrative offices and serving the educators more than the students. The collections are typically older materials and dominated by French literature and grammar.

In rural areas most schools do not have libraries, and those that do typically have very small collections that are not easily accessible. Sissao (2004) reports that rural schools are grossly undersupplied with reading material, especially with works authored by Africans that are of interest to students and teachers.

There exist a few rural village community libraries started by locals and foreign donors, but there is no comprehensive or reliable data on these libraries. Some of the rural libraries were opened to great fanfare and subsequently closed (e.g. the case of the library of Tanghin-Dassouri,
built along the main highway outside of Ouagadougou with donations from the French sister city of Belfort). Without long-term involvement of outside management and funding, libraries in both urban and rural Africa are unlikely to thrive.

A small NGO, Friends of African Village Libraries (FAVL), began in 2001 to establish and support community libraries in southwestern Burkina Faso, and by 2007 was operating five libraries in the province of Tuy. (Full disclosure: one co-investigator is president of FAVL). The salaries of librarians, occasional additions to the collection from the few bookstores in Ouagadougou, and training and expatriate volunteers, are all provided by FAVL as part of a long-term commitment to the libraries. Village communities have provided buildings and labor, and have local committees that oversee the libraries. Several hundred primary and secondary students as well as many literate adults are members of each of the libraries (a modest fee of approximately 20 cents per year is charged for borrowing privileges; in-site reading is open to all). The libraries are open 20 hours each week, including evenings where there are solar-powered lights. The libraries have approximately 1000 books in each, and about 150 books are checked out per month. Libraries typically shelve a good selection of Francophone African novels popular with secondary school students and literate adults. Other books in high demand are those of history of Burkina Faso and West Africa generally, books about national politics, and comic books (bandes dessinées). School teachers are involved in the libraries, and occasionally take their students to visit. None of the primary and secondary schools in the region had school libraries other than perhaps a shelf of books used by the teachers. The only public library in the region, a CLAC/BLCP in the library of the town of Houndé, located near the FAVL-managed libraries, was a small room located in a building of the Ministry of Education district headquarters. All of the books were kept closed in metal cabinets, and the library was
only used by secondary school students who dared to ask for a book from a frowning civil servant.

Methods

We conducted a survey of secondary school students in eight villages in Burkina Faso in February and March of 2005 to arrive at a preliminary measure of the impact of village libraries on reading. Our budget was limited, and so we adopted the sampling methodology of choosing paired villages: for each village with a secondary school and a village library, we matched it with the nearest similar village in the sense of having a secondary school and not having a library. The four pairs of villages chosen were located in the south-west of Burkina Faso. Since there were very few villages in Burkina Faso with functioning libraries, our method was to choose four villages where we knew there were well-functioning libraries that served the secondary school population well. Two of the villages with libraries were in Tuy province and had libraries managed by FAVL. The other two villages with libraries were larger, and closer to Ouagadougou, and had CLAC/BCLP libraries. These CLAC/BCLP were well-functioning, with several thousand books and regular hours of opening. They had staff librarians trained by CENALAC, allowed books to circulate, and their collections included good selections of bandes dessinées and African novels. Each village was matched with the nearest village with secondary school but without a library. To reiterate: we matched the four villages with libraries with the nearest comparably sized villages that had secondary schools but no village libraries. So we had two pairs of matched villages, eight villages in total: two villages with FAVL libraries, and two nearby villages without libraries; and two villages with CLAC/BCLP libraries and two nearby
villages without libraries. These no-library villages were typically located more than 25km from
the village with a library, so there was little overlap in their potential readers.

In each village we asked the entire class of *troisième* (or 3ème; equivalent to 10th grade) to
fill out a questionnaire that asked students about their socio-economic background, the
accessibility of books in their village, their reading habits, and indicators of their attitudes and
aspirations towards school, reading and literature. The questionnaire took approximately one
hour to complete, and was filled out in the classroom. The total number of respondents was 496
students, 67% boys and 33% girls. The students were distributed across the three types of
villages as follows: 186 were in the two large villages with CLAC/BCLP, 95 were in the two
villages without libraries matched to these, another 73 were in the two small villages with village
libraries supported by FAVL, and 142 in the matched villages without libraries.

Most studies of the impact of library services suffer from endogeneity (or two-way
causality) problems, in that libraries are often financed locally, so they plainly respond to local
conditions, and high-quality and extensive library services may reflect an interested and
supportive local community that values reading. The causality may then run from good
schooling outcomes to provision of library services, rather than the other way around.

Studies of the effects of libraries in developing countries would seem to suffer less from
the endogeneity problem, in that provision of library services are often non-local decisions.
National governments or international donors drive library expansion and contraction. The
placement of libraries responds more to criteria determined by the donor (random
regionalization, accidents of history, population size criteria) rather than to local initiative and
characteristics. Our limited sample size of eight villages precludes more careful control of this
endogeneity question, and so the results should be seen as indicative rather than conclusive.
Results: Impact of libraries

The primary question is whether the responses of students indicate that there is sizable and statistically improvement in reading habits between students with access to libraries and students without access to libraries.

We measure the impact of libraries on reading habits in three rather direct ways. We asked students to indicate how many books they had read from among 25 fairly well known novels by African authors of the region and the country. We also asked how many books they had read in the past 30 days, and how many books they had read in the past year. We rely on imperfect recall rather than direct observation, but there are high degrees of correlation among the three responses, lending support to the reasonableness of student answers. The responses are presented in Table 1. The table measures the number of books read for each of the three measures, for each of the four categories of villages. The clear implication of the table is that students in villages with small FAVL libraries were reading considerably more than students in other villages. From the list of 25 novels, for example, students in villages with FAVL libraries had read, on average, 8.77 titles, compared with 5.64 titles for students in the two other matched villages. In the past 30 days, students in villages with FAVL libraries indicated they had read on average 2.18 books, compared with about 1.65 books read by students in other villages. In the past year, students in villages with FAVL libraries indicated they had read on average 12.67 books, compared with about 7.18 in the matched villages without libraries. These differences in average numbers of books read were statistically significant.

For the villages with and without the CLAC/BCLP libraries, the differences were smaller and more complicated. The straight comparison of average number of books read across
students in the two different kinds of villages suggests that only the measure of books read in the past month was statistically significant (1.63 in villages with CLAC/BCLP libraries and 1.38 in villages without). But the lack of difference is due in part to these villages being considerably larger than the smaller FAVL villages. Many students in these villages were not subscribers to the CLAC/BCLP libraries, while in the FAVL villages virtually all students were subscribers. If we separate out the subscribers from the non-subscribers, in the CLAC/BCLP villages, then we find that there were statistically significant differences in reading habits. Non-subscribers responded that they had read 5.19 of the 25 African novels, while subscribers had read 6.26; non-subscribers had read 1.28 books in the past month while subscribers had read 1.95; and subscribers had read 5.58 in the past year while subscribers had read 8.15.

Figures 1 and 2 show the kernel density function (a kind of smoothened histogram) of books read from among those 25 novels by African authors for the paired comparisons. The figures clearly shows how the entire distribution of books read is shifted to the right for the students in villages with libraries (or who are subscribers in the case of the CLAC/BCLP). The increase in books read in the two FAVL villages, compared with the two villages that did not have libraries, was not due to a handful of super-avid readers, who read dozens of books and so skewed the average. The avid readers read more, and the less-avid readers read more. Indeed, the percent of students who indicated they read very few books declined quite dramatically with the presence of the FAVL libraries. For the 25 African novels, 28% in villages without libraries had read fewer than four, while only 12% in the villages with FAVL libraries had read so few books. For the previous 30 days, 18% of students in villages without libraries had read no books, while only 12% in the villages with libraries had read no books. For the previous year, in
the two villages without libraries 73% had read 5 or fewer books, while only 38% had read 5 or fewer in the two villages with FAVL libraries.

The differences in reading habits between students in villages with libraries and those in villages without libraries, and certainly the differences between subscribers and non-subscribers in the CLAC/BCLP villages, should not necessarily be attributed to the libraries. The differences may also be due to differences in the characteristics of the students themselves that impelled them to subscribe or not subscribe and hence read more or less. Or for the differences across villages, the differences in reading habits may be due to different general characteristics of students in villages with libraries.

As suggested above, however, the presence of a village library is perhaps more exogenous than might be supposed, since all libraries in Burkina Faso are financed by outside donors or government agencies, rather than responding to local efforts or choices. Moreover, it is interesting to note that there are few statistically significant differences across the categories of students (with and without libraries, subscribers or non-subscribers) in socio-economic characteristics. For example, Table 2 reports the mean scores for the students in the different villages for various attitudinal questions. The first set asked about types of literature preferred, the second set asked about how reading was perceived in the village and school setting. Students in villages with FAVL libraries indicated they preferred history, African novels and traditional stories, and less often preferred comic books, detective stories and love stories. But there was similar variation in the CLAC/BCLP villages, and there were no significant differences in attitudes towards reading. At the very least, the conclusion to draw is that the increased reading in villages with FAVL libraries was not due to any large difference in “reading culture.”
Another attempt to control for other underlying socio-economic characteristics that vary across the villages is reported in Table 3. Girls had indicated that they had read more books from among the list of 25 authors, but fewer in the previous 30 days and year, compared with boys. Older students generally read more than younger students. The correlation between books read and the years of education of mother and father was positive (though low, only .12 for each). So there are a number of characteristics that many affect reading habits, and these individual and household level characteristics should be controlled for in a multivariate analysis. Table 3 reports the results of Ordinary Least Squares (OLS) regressions with number of books read as the dependent variable, and various socio-economic measures as explanatory variables. The mean values of the explanatory variables are given in the first column. The age of the student is adjusted to be the difference from 16 years old; so the coefficient is to be interpreted as how many more books are read as a student increases in age from 16. The average age is seen to be 18. The index of wealth of the students’ household is a sum of four indicator variables: whether the household has a vehicle, a television, a radio, and one of a number of other household assets. This index of household wealth was correlated with other measures of household wealth, such as lightbulbs in the home (most villages lack electricity) and oxen. About 25% of the students indicated that they had access to a library in their primary school years. Another 9% indicated that they had access to private book collections of at least 25 books. Years of education of the mother, very closely correlated with father’s education, was a low average of 1.36 years.

The results of the regression confirm the earlier finding displayed in Figure 1 that access to libraries and books was a significant determinant of reading habits. A library available in primary school years meant students had read almost two more books from among the list of 25
African novels. A private book collection also increased the number of books read, and living in a village with a FAVL library increased the amount by almost three books. Comparable effects were found for the other two measures of reading; students in villages with FAVL libraries read about a half a book more per month, and about five more books per year. There appears to be an interesting gender effect; in the villages without small public libraries girls read less than boys, but in the villages with small public libraries these effects were basically cancelled and there was no gender difference in reading habits.

Conclusion

The results of the survey of eight villages in Burkina Faso, matching villages with libraries and villages without libraries, suggests two conclusions. First, the level of reading overall is quite low. Students 3ème level, the equivalent of 10th grade, and the elite of the Burkinabè educational system, had only read about six novels from a list of 25 well-known novels of West Africa. Moreover, the students indicated they read about six books per year. This overall average has to be seen as quite low. Second, small village libraries, such as those operated by FAVL, seem to be effective in increasing the number of books (by about 50%) read by secondary school students. Elsewhere we have conducted a simple cost-benefit analysis where we estimate that the increase in reading generated by the village libraries is reasonably cost-effective; that is, it is comparable to the costs of generating extra schooling by building classrooms. Literacy can be deepened in the classroom and in the library, so it is worthwhile to have determined that libraries in rural African villages will fill a largely unmet demand by students for increased access to opportunities to enhance their literacy skills.
How many books read from among the 25 listed by African authors?

How many books read in last 30 days?

How many books read in last year?

Table 1: How many books do students say they have read? Results for three measures

| Without a CLAC/BCLP library | 95 | 5.55 | 1.31 | 6.58 |
| With a CLAC/BCLP library (non-subscriber) | 80 | 5.19 | 1.28 | 5.58 |
| With a CLAC/BCLP library (subscriber) | 95 | 6.26 | 1.95 | 8.15 |
| Without a FAVL library | 142 | 5.64 | 1.65 | 7.18 |
| With a FAVL library | 73 | 8.77 | 2.18 | 12.67 |

Note: Differences between means of with-FAVL and without-FAVL, and subscriber CLAC/BCLP and non-subscriber CLAC/BCLP are significant at .05 level.
Figure 1: How many of 25 African novels have you read?

Figure 2: How many of 25 African novels have you read?
### Table 2: Preferred literature and attitudes towards reading: Percent of respondents indicating agreement

<table>
<thead>
<tr>
<th></th>
<th>Without a CLAC/BCLP library</th>
<th>With a CLAC/BCLP library</th>
<th>Without a FAVL library</th>
<th>With a FAVL library</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What genre of books do you like?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>0.55</td>
<td>0.44</td>
<td>0.44</td>
<td>0.59</td>
</tr>
<tr>
<td>Detective stories</td>
<td>0.07</td>
<td>0.08</td>
<td>0.05</td>
<td>0.00</td>
</tr>
<tr>
<td>Adventure stories</td>
<td>0.24</td>
<td>0.37</td>
<td>0.30</td>
<td>0.32</td>
</tr>
<tr>
<td>Love stories</td>
<td>0.28</td>
<td>0.28</td>
<td>0.45</td>
<td>0.40</td>
</tr>
<tr>
<td>African novels</td>
<td>0.65</td>
<td>0.48</td>
<td>0.69</td>
<td>0.74</td>
</tr>
<tr>
<td>Comic books</td>
<td>0.18</td>
<td>0.19</td>
<td>0.19</td>
<td>0.03</td>
</tr>
<tr>
<td>Biography</td>
<td>0.05</td>
<td>0.03</td>
<td>0.02</td>
<td>0.04</td>
</tr>
<tr>
<td>Traditional stories</td>
<td>0.48</td>
<td>0.57</td>
<td>0.51</td>
<td>0.66</td>
</tr>
<tr>
<td>Poetry</td>
<td>0.17</td>
<td>0.16</td>
<td>0.13</td>
<td>0.08</td>
</tr>
<tr>
<td>Legends</td>
<td>0.04</td>
<td>0.02</td>
<td>0.01</td>
<td>0.03</td>
</tr>
<tr>
<td>Science</td>
<td>0.20</td>
<td>0.13</td>
<td>0.11</td>
<td>0.08</td>
</tr>
</tbody>
</table>

**Attitudes towards reading**

<table>
<thead>
<tr>
<th></th>
<th>Without a CLAC/BCLP library</th>
<th>With a CLAC/BCLP library</th>
<th>Without a FAVL library</th>
<th>With a FAVL library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading makes you an 'anti-social person' in the village</td>
<td>0.14</td>
<td>0.16</td>
<td>0.15</td>
<td>0.11</td>
</tr>
<tr>
<td>My friends read a lot</td>
<td>0.55</td>
<td>0.58</td>
<td>0.61</td>
<td>0.48</td>
</tr>
<tr>
<td>Reading is good for school</td>
<td>0.48</td>
<td>0.54</td>
<td>0.42</td>
<td>0.40</td>
</tr>
<tr>
<td>Reading is hard in a village</td>
<td>0.34</td>
<td>0.26</td>
<td>0.30</td>
<td>0.33</td>
</tr>
</tbody>
</table>
Table 3: Regression results explaining variation in books read

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>How many books read from the list of 25 African novels?</th>
<th>How many books read in last month?</th>
<th>How many books read in last year?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of student (years over 16 years)</td>
<td>2.16</td>
<td>0.06</td>
<td>0.26</td>
<td>-0.05</td>
<td>-0.50</td>
</tr>
<tr>
<td>Index of assets owned by household, from 0-4</td>
<td>2.43</td>
<td>0.06</td>
<td>0.43</td>
<td>0.07</td>
<td>0.42</td>
</tr>
<tr>
<td>Did student have access to library in primary schooling?</td>
<td>0.25</td>
<td>0.02</td>
<td>1.90</td>
<td>0.57</td>
<td>1.47</td>
</tr>
<tr>
<td>Does student have access to private book collection?</td>
<td>0.09</td>
<td>0.01</td>
<td>1.32</td>
<td>0.44</td>
<td>2.34</td>
</tr>
<tr>
<td>Village with FAVL library?</td>
<td>0.16</td>
<td>0.02</td>
<td>2.76</td>
<td>0.53</td>
<td>5.07</td>
</tr>
<tr>
<td>Is student female?</td>
<td>0.33</td>
<td>0.02</td>
<td>-0.05</td>
<td>-0.34</td>
<td>-2.11</td>
</tr>
<tr>
<td>Female*Village with FAVL library</td>
<td>0.05</td>
<td>0.01</td>
<td>1.58</td>
<td>0.34</td>
<td>2.21</td>
</tr>
<tr>
<td>Years education of mother</td>
<td>1.36</td>
<td>0.14</td>
<td>0.10</td>
<td>0.01</td>
<td>0.15</td>
</tr>
<tr>
<td>Constant</td>
<td>3.33</td>
<td>1.45</td>
<td>8.19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Observations 470  470  470  Adjusted R-squared 0.18  0.07  0.10

Absolute value of t-statistics in parentheses

* significant at 5% level; ** significant at 1% level
References


