

The Critical Importance of Data Collection Efforts in Developing Countries: The Case of Gender

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The World Bank's Enterprise Surveys regularly collect data on private firms in the developing world. This note highlights the critical importance of such collection efforts for a better understanding of important development issues related to the private sector. Specifically, this note considers female participation in management, ownership and workforce and how such participation correlates with various firm characteristics. While some of the results confirm predictions in the anecdotal and formal literature, such as greater presence of female workers in firms with a female vs. male top manager, other results—such as lower labor productivity among female vs. male managed firms—are weak. Some gender specific differences are also found to be sensitive to the sector of activity.

Introduction

The importance of the private sector in providing jobs and increasing incomes can hardly be exaggerated. However, policies aimed at improving the performance of the private sector depend critically for their success on the availability of reliable data. Hence data collection efforts, such as the ones pioneered by the World Bank's Enterprise Surveys, are crucial especially in the low-income countries where alternative data sources are either absent or limited in scope. This note highlights the importance of such data collection efforts. To this end, we focus on data that were recently collected by Enterprise Surveys (ES) in collaboration with the Department for International Development of the United Kingdom (DFID) in Ethiopia, Rwanda, Zimbabwe, Bangladesh and Nepal. Specifically, using these data, we analyze the participation of women vs. men in the workforce, management and ownership of private firms. A noteworthy feature of ES data is its cross-country comparability. We highlight the point by benchmarking our results against the sample of Sub-Saharan African countries (comparator countries) that include: Angola, Botswana, Burkina Faso, Central African Republic and Cote d'Ivoire.

Gender issues are now at the forefront of development debates but with little formal evidence on, for example, what are the sorts of sectors and firm-types that are more open to

female workers, managers and owners. Do younger firms hire more females than older firms—possibly because younger firms are less tied to tradition? Due to space constraints, this note touches only on some of the most important issues. It is hoped that the exercise serves to illustrate the importance of compiling reliable data in developing countries.

The gender variables in the Enterprise Surveys include: whether the top manager is female or male, if the firm has one or more female owner, and the proportion of the workforce (permanent, full-time) that is female. Table 1 provides information on the sample size and summary statistics of the gender variables at the country level.

A large number of variables provided in ES data were analyzed along the gender lines mentioned above. The analysis was done using Ordinary Least Squares and Logit estimation methods with Huber-White robust standard errors; the errors are clustered on the country when the sample includes more than a single country. The results discussed here are drawn from this exercise. Throughout this discussion, the cut-off level used for whether a particular result is "significant" or not is 10 percent or less. Due care is taken to point out if any of our results for the group of the five countries of interest are driven by a single outlier country. The results are as follows.

Table 1 Sample size and summary statistics of the gender variables

Country (sample size)	Percentage of firms with a female top manager	Percentage of firms with one or more female owners	Percentage of full-time permanent employees who are female
Banglades (1441 firms)	5	13	16
Nepal (482)	17	22	18
Ethiopia (644 firms)	14	35	34
Rwanda (233 firms)	19	43	33
Zimbabwe (599 firms)	17	56	23
All countries above (3399 firms)	13	25	21
Comparator countries (1696 firms)	13	54	30

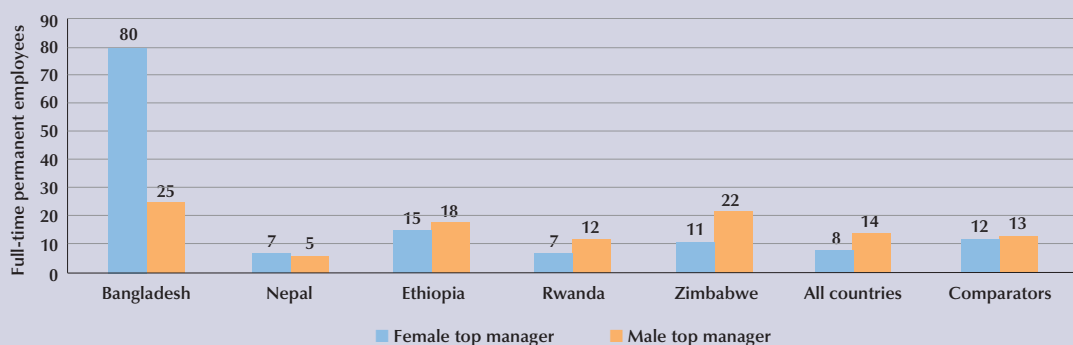
Evidence on female-firm under performance hypothesis is limited

Studies have shown that firms owned or managed by women tend to lag behind those owned or managed by men in firm-size (annual turnover) and firm-efficiency (productivity measures)—the so-called “female-firm under performance hypothesis.” Difficulties faced specifically by women in establishing and running a business such as unfavorable social attitudes and the need to balance work with caregiving activity could be among the reasons for this lag. In the five countries of interest, we find some but limited evidence in support of the hypothesis, i.e., on average, a firm with a female top manager is smaller in size (number of full-time permanent employees and annual sales) than a firm with a male top manager. For example, a typical firm with a female top manager employs 8 full-time permanent employees (median value) compared with a much higher figure of 14 employees (median value) for male-managed firms. However, even this result is not uniform since Bangladesh and Nepal show the opposite (figure 1). Further,

firm-size and presence of female owners show no significant relationship. Similarly, performance measures such as sales growth, employment growth and labor productivity levels are independent of the gender of the manager and owner(s). For the comparator countries, the evidence on the female-firm under performance hypothesis is similarly limited and mixed.

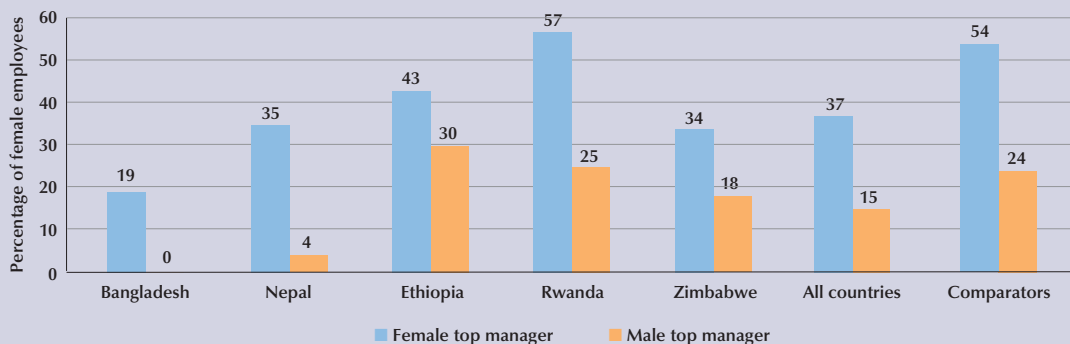
The data do not reject the “Revolving door” hypothesis

The “Revolving Door” hypothesis suggests that having a woman in the top position could make it easier for other women to find jobs. The data for our countries of interest show that the percentage of females among permanent full-time employees at the firm is significantly higher in firms that have a female rather than a male top manager (figure 2). The greater presence of female employees among firms with a female top manager is also evident in the comparator countries (figure 2). What is different between the DFID countries of interest and the comparator countries is that the

Figure 1 Female-managed firms have fewer employees than male-managed firms

Source: Enterprise Surveys.

Notes: 1) Figures shown for the individual countries are median values. 2) Figures shown for “All countries” are median values taken over the entire sample of the individual countries shown. 3) For the comparator countries, the figures shown are median values taken over the entire sample of comparator countries.

Figure 2**The number of female employees is higher among firms with a female vs. male top manager**

Source: Enterprise Surveys.

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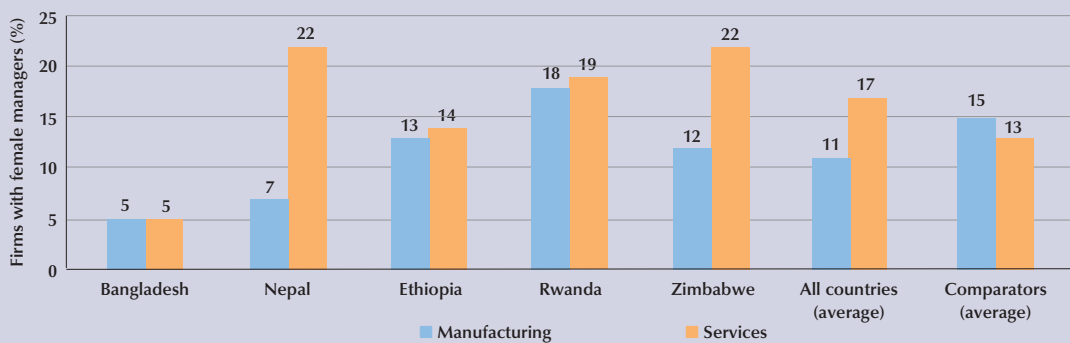
business sector matters: the proportion of female employees among firms with a female vs. male top manager is much greater in the service sector compared with the manufacturing sector. In the manufacturing sector, for example, the median percentage of female employees among firms with a female top manager equals 26 percent but a mere 8 percent for firms with a male top manager. In contrast, in the service sector, the corresponding figures show a much larger gap at 37 percent and 15 percent respectively. We find no such difference between the manufacturing and service sectors for the comparator countries.

Is the service sector more attractive for women than men when compared with the manufacturing sector?

Anecdotal evidence suggests that the service sector may be particularly attractive for women seeking jobs. We find

limited evidence in the DFID countries of greater female participation in management, ownership and employees in the service sector relative to manufacturing. Averaged across countries, the percentage of firms with a female top manager in the manufacturing sector equals 11 percent compared with a much higher figure of 17 percent for the service sector. Note that this result holds in the overall sample but not in all the individual countries (figure 3). Somewhat surprisingly, in the comparator countries, the percentage of firms with a female top manager is higher in manufacturing than in the service sector although not significantly so.

For female participation in ownership as well as for female employment, there is no noticeable difference between the manufacturing and service sectors. Averaged across countries, the percentage of female employees at the firm equals 24 percent for the sample of manufacturing firms as well as for the services firms. The corresponding figure for female participation in ownership is 34 percent for both groups. The comparator countries also show roughly equal levels of female participation in ownership in the

Figure 3**Female top managers are more common in the service sector than in manufacturing**

Source: Enterprise Surveys.

Notes: Figures shown for "All countries" are simple averages over the individual countries shown. Figures shown for the comparator countries are simple averages taken over the individual comparator countries.

manufacturing and service sectors but a significantly higher percentage of female employees in the service sector than the manufacturing sector (33 vs. 23 percent).

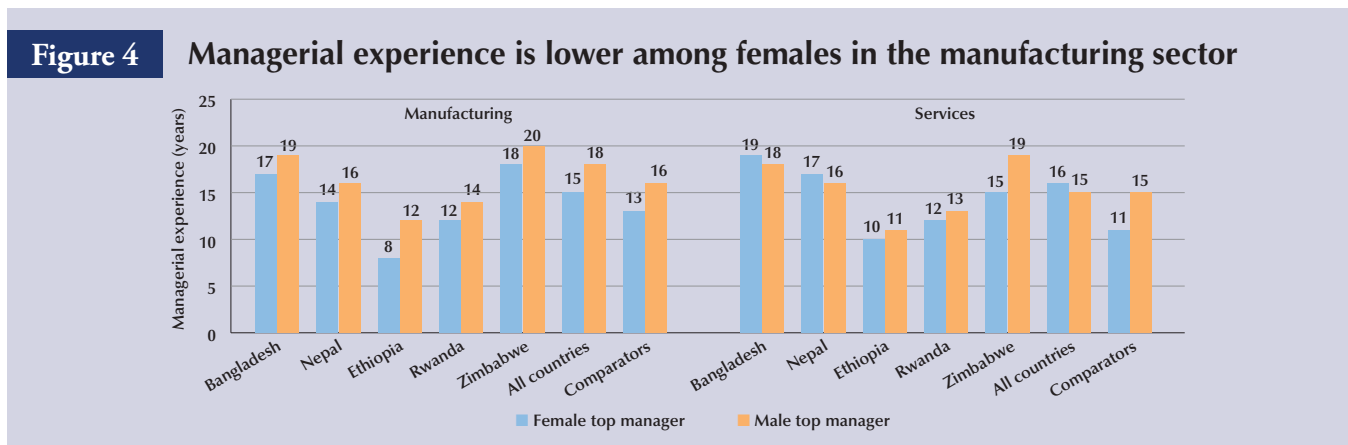
Does the gender gap in education extend to managerial experience?

A number of studies document a gender gap in education or formal schooling with females lagging behind men. However, formal schooling is only one component of human capital with job experience being another. Do women lag behind men in job experience as well? The results are mixed, i.e., in the countries of interest, managerial experience is lower for female vs. male managers but not significantly so—female managers have 15 years of experience working in the industry compared to a somewhat higher level of 16 years for male managers. The only exception is Zimbabwe where male managers have significantly higher experience (20 vs. 16 years). The results are stronger at the sector level in that, within the manufacturing sector, female managers have significantly less experience than their male counterparts

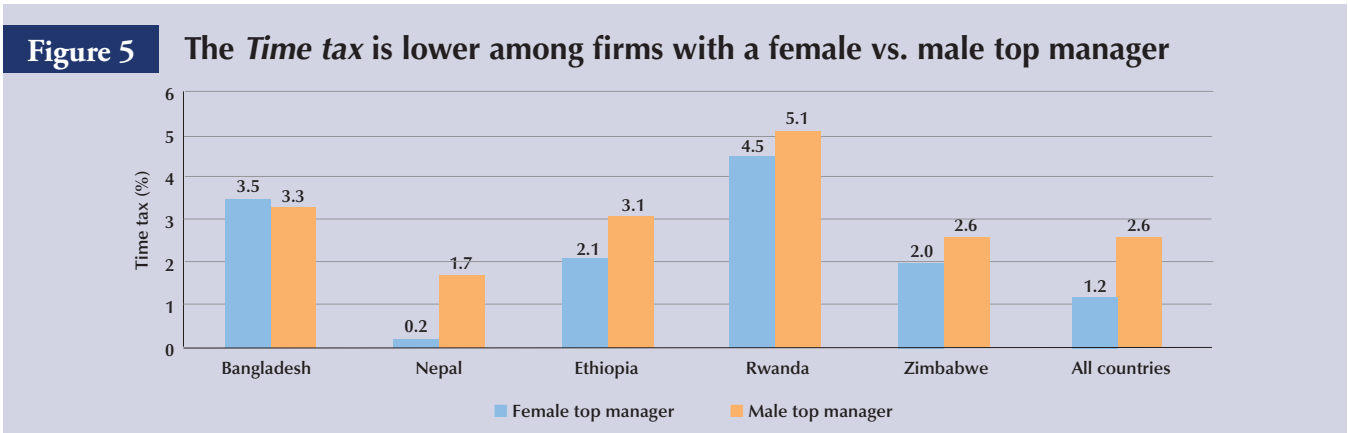
(15 vs. 18 years). In the service sector, managerial experience is higher for female vs. male managers but only marginally so (16 vs. 15 years) (figure 4). For the comparator countries, the results are somewhat different with the female managers showing a significantly lower level of managerial experience than male managers in the full sample (11 vs. 15 years) and also in the manufacturing and services sectors considered separately

Senior managers at female-managed firms spend less time on business regulations

The percentage of senior management’s time spent dealing with business regulations (*Time tax*) is an important proxy measure of the regulatory burden on private firms. Our data seem to suggest that the *Time tax* is actually lower among firms with a female vs. male top manager (figure 5). In our countries of interest, 1.2 percent of senior management’s time is spent on dealing with business regulations among firms with a female top manager compared with a much



Source: Enterprise Surveys.
 Notes: 1) Figures shown for “All countries” are mean values taken over the entire sample of the individual countries shown. 2) For the comparator countries, the figures shown are mean values taken over the entire sample of comparator countries.



Source: Enterprise Surveys.
 Notes: 1) The *Time tax* is defined as the percentage of senior management’s time spent in dealing with business regulations during the last year. 2) Figures shown for “All countries” are mean values taken over the entire sample of the individual countries shown.

higher figure of 2.6 percent among firms with a male top manager. As figure 5 reveals, this result is not uniform across all countries—Bangladesh is an exception. It is noteworthy that this gender-based difference in the *Time tax* is not driven by differences in firm-size or sector of activity. In the comparator countries, we find no evidence of any significant difference in the *Time tax* by the gender of the manager—16.7 percent for female and 16.5 percent for male-managed firms.

Information is also available on the number of visits or required meetings with tax officials during the previous year (henceforth visits). In our countries of interest, the number of visits is significantly lower for firms with female compared with male managers (1.4 vs. 1.8) but this result is driven by a single country—Nepal. Nevertheless, we find a much stronger result regarding fewer visits for firms with female vs. male top managers among small firms and this result is robust to exclusion of any single country such as Nepal (figure 6). For the remaining medium and large firms, there is no significant difference in the number of visits by the gender of the top manager. In the comparator countries, the number of visits is higher for firms with a female vs. male top manager but the difference is not significant.

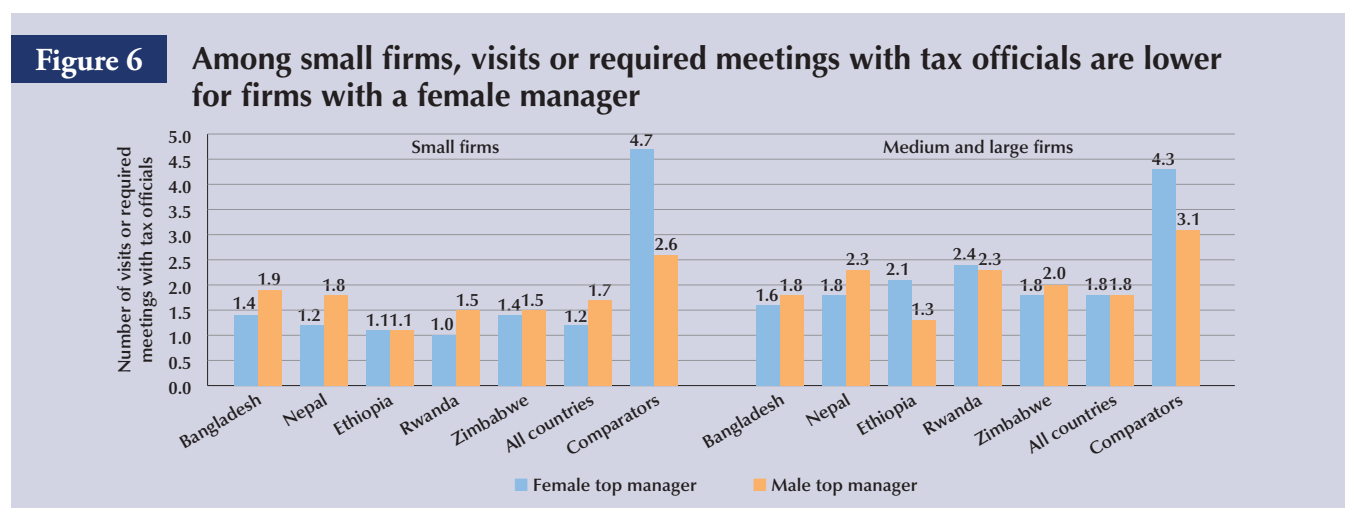
Female-managed firms are less affected by poor power supply than male-managed firms

Given gender discrimination in general, it might be tempting to believe that access to infrastructure may be more difficult for females relative to male managers and entrepreneurs. However, in terms of electricity, we find no evidence of this. On the contrary, females-managed firms are less affected by poor power supply than male-managed firms. In three of the five countries of interest (Nepal, Rwanda and Zimbabwe), losses due to power outages (as percentage of annual sales of the firm) are significantly lower

for firms with a female vs. male top manager (figure 7). In the full sample of all the five countries of interest, these losses remain lower for firms with a female top manager but not significantly so. Conversely, the comparator countries show higher losses due to power outages for female vs. male-managed firms and this difference is significant at close to the 10 percent level.

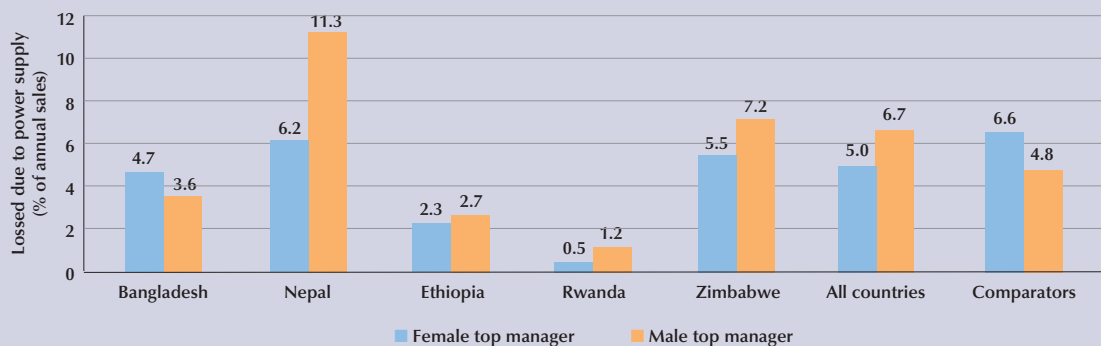
Most important obstacle

Consistent with the findings discussed above regarding losses due to power outages, female-managed firms in the countries of interest are less likely to report electricity as their single most important obstacle. Specifically, 8 percent of the firms with a female top manager reported electricity as the most important obstacle they face in doing business compared with a significantly higher 24 percent of the firms with a male top manager. On the other hand, many fewer male-managed firms reported political instability as their most important obstacle compared to female-managed firms (31 vs. 53 percent). In the comparator countries, there is no evidence of a systematic difference between male vs. female managed firms in the percentage of firms that report electricity and political instability as their most important obstacle (figure 8). However, in the comparator countries, firms with a female top manager are much more likely than firms with a male top manager to report practices of competitors in the informal sector and much less likely to report corruption and customs and trade regulations as their most important obstacle.



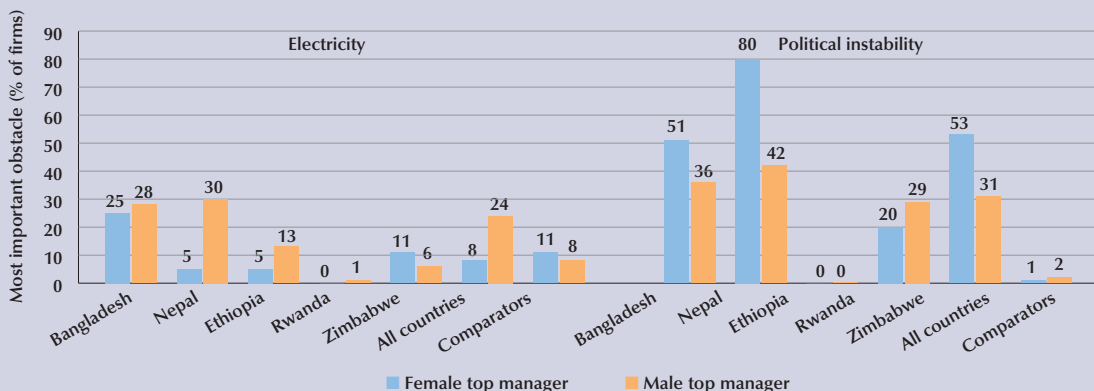
Source: Enterprise Surveys.

Notes: 1) Figures shown for “All countries” are mean values taken over the entire sample of the individual countries shown. 2) For the comparator countries, the figures shown are mean values taken over the entire sample of comparator countries.

Figure 7**Losses due to power outages are lower for female-managed firms in 4 out of 5 countries**

Source: Enterprise Surveys.

Notes: 1) Figures shown for “All countries” are mean values taken over the entire sample of the individual countries shown. 2) For the comparator countries, the figures shown are mean values taken over the entire sample of comparator countries.

Figure 8**Female managers are more concerned about political instability and less concerned about electricity as the most important obstacle to doing business compared with male managers**

Source: Enterprise Surveys.

Notes: 1) Figures shown for “All countries” are mean values taken over the entire sample of the individual countries shown. 2) For the comparator countries, the figures shown are mean values taken over the entire sample of comparator countries.

Summary

ES data from five countries in Africa and Asia are utilized to shed light on the issue of gender in the private sector. Results show that while some of the predictions in the anecdotal and formal literature—such as greater presence of female workers in firms with a female vs. male top manager—are confirmed in the data, other results such as the lower labor productivity among female vs. male

managed firms are weak. Some gender-specific differences are found to be sensitive to the sector of activity. Female managers have less experience than their male counterparts in the manufacturing sector but not in the service sector, for example. In other words, more research work is required based on reliable data on private firms in order to better understand gender issues in the private sector.

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