

‘Shut-Down Rule’ vs ‘Closure’: Which one is relevant on closed garment factories of Bangladesh?

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Abstract: *Entry and exit of firms in a large industrial sector are a regular phenomenon, along with other players in domestic and external conditions that affect entry and exit of firms. Recently, Bangladesh Garments Manufacturers & Exporters Association (BGMEA) informed about the closed down of over 200 factories, which it claims was due to various reform measures undertaken, along with the restructuring and failure to maintain compliance.*

Taking that into account CPD conducted a field survey of the closed factory units provided in the BGMEA list through a questionnaire. The objective was to examine the empirical evidence for the claims made by BGMEA for shut-down of large number of factories. Then the study examined whether there is a relationship between the closure of the factories and recent inspection for buyer's stringent stand on putting orders to certain kinds of factories. In addition, the research also inquired about the reasons behind closure of these factories and to what extent 'the shut-down principle' explains this closure. The study found that the shut-down is more relevant with the state of closure of factories. Hence, this paper puts forward suggestions regarding changes in primary support for entrepreneurship development in the RMG factories, in order to ensure a sustained and robust growth of entrepreneurship in the apparel sector.

1. Background:

Maintaining the compliance standards and labour rights in the RMG sector have been criticized for years until the largest tragedy in the industrial history of Bangladesh took place in 24 April, 2013: the collapse of Rana Plaza in Savar. A total of 1,134 workers died instantly in that incident and 2,436 workers were rescued from the collapsed building (CPD, 2014). Since then the western buyers faced stronger pressure to ensure the compliance conditions of the factories from where they buy the products. Thus, Accord, Alliance and BUET organized inspection teams to check the physical and other compliance issues of the RMG factories. However,

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this sudden step to maintain certain level of compliance has not been well received by many small and sub-contract RMG factories. BGMEA has provided two lists (one in May & other in September, 2014) named as “List of the closed factories due to Rana Plaza Tragedy” comprising the name of 176 factories first and later 209 factories (the current list), claiming that compliance inspections after the Rana Plaza Tragedy have resulted in the shutdown of these apparel units. Hence, BGMEA leaders asked for a comprehensive exit plan for those non-compliant apparel units (The Financial Express, 11 May 2014).

In the national newspapers, a number of claims by the BGMEA officials were reported as reasons of closure of these factories. BGMEA officials’ major claim is that many of the apparel factories have been partly or fully closed because of the ongoing inspection to check compliance factors (The independent, 14 May 2014; The Financial Express, 11 May 2014). According to the Association, non-compliance, western retailer’ audit, recent wage hike and workers’ unrest had negative impact on orders, thus resulting in the shutdown of apparel units (The Financial Express, 11 May 2014). Moreover, Mr. Shahidullah Azim, Vice president of BGMEA said that buyers are no longer placing orders in apparel factories located in shared or rented buildings and thus many owners willingly closed their factories as they could not run their business. Hence, BGMEA published a list of 176 garment factories which had been closed due to the Rana plaza incident.

On the other hand, according to the report by The Daily Star (12 September, 2014), a total of 1,700 factories were inspected by Accord and Alliance. Besides, ILO and Bangladesh University of Engineering and Technology (BUET) inspected some 225 factories during April and June 2014. Hence, a total of 19 garment factories were closed by May, 2014 following the recommendations of Accord and Alliance (The Independent, 14 May, 2014). Among the 19 closed factories, the review panel instructed to shut down 16 factories in line with the recommendations of Accord and the other three were shut down according to the recommendations of Alliance. In September, 2014 BGMEA published the updated list of 209 factories that were closed due to Rana Plaza tragedy. Mr. Azim notified that small and medium factories set up in shared buildings, sub-contracting plants are closed as western retailers have cut orders from them in order to prevent further disasters. He also said many factory owners are struggling to pay the increased wage (27 September 2014, bd24live.com). Hence, some owners closed their plants as they were convinced that modifying to the compliance issues will not fix their problems. He then added that “lack of enough work orders, shared building, non-compliance issues, and workers’ unrest were major issues behind closure of 209 factories” (DhakaTribune, September 4, 2014).

2. Research Objectives:

The paper intends to examine the claim made by the Association of RMG entrepre-

neurs (BGMEA) of closure of large number of factories due to reduced orders placed by buyers for failure to maintain strict compliance requirements after the tragic incidence of Rana plaza. The focus of this study is two-fold: 1a) Is there any relation between closure of the factory and recent inspection and buyer's stringent stand on putting orders to certain kinds of factories? 1b) If not, what are the reasons behind closure of those factories?, 2a) Can the closure of factories be explained by the shut down principle of economics? Or 2b) Is the policy intervention made by the government responsible for closure of factories? This paper investigates to what extent government should take responsibility of such factories if those factories are closed due to 'shut down' rule. More importantly, the paper examines and puts forward suggestions about what kind of support is needed for entrepreneurship development in the apparel sector in order to ensure a sustained and robust growth of entrepreneurship in the country.

Hence the research questions this study has sought to answer are:

- i. What are the major factors behind the closure of these factories?
- ii. Whether these factories were shut down due to the introduction of the compliance issues?
- iii. What is the economic theory behind the factory closure?
- iv. In this context, what are the policy perspectives for these factors?

3. Methodology :

This study is an exploratory study to find out the reasons of closure of the factories listed by Bangladesh Garment Manufactures and Exporters Association (BGMEA). The first list published in May , 2014 was named as "List of closed factories due to Rana Plaza Targedy" and had names and addresses of 176 factories on it. Thus, the study first prepared a questionnaire to find out the answers of research objectives. The questionnaire consisted 28 questions and was divided in 4 broad sections. They are: a) Locational aspects, b) Labour related Issues, c) Accident History, and d) Owners' situation/ New entrepreneurial activities. It had both open ended and closed ended questions so that the reasons of closure and the situation of the closed factories are reflected from the survey.

Table 1: The summary of the factories in the survey

Response State	Frequency
Total number of closed factories in BGMEA's first list	176
Total number of factories traced in CPD's survey	159 (90.34%)
Total number of respondent factories	95 (59.75%)

However, in the field study, 159 factories were traced from the original list. Enumerators could only get data from 95 factories, as the other factories were not found in their respective addresses and some of the factory addresses given were incorrect (Table 1). A file was created listing the names and address of the factories from where enumerators sought to obtain data, and factories which were not found in their respective addresses.

Once the data of all the factories were entered in the computing system, the data analysis process started. Based on the newspaper reports, it was clear that the garment factories which had been closed had specific characteristics. Hence, first the study ascertained the state of the factories whether they were closed down or were still operating, and then obtained information about what was the location of these factories and in what sort of buildings they operated their business. The next phase of analysis was to list the reasons of closure mentioned by the interviewees. They were then listed under 15 broad categories. Based on the responses and literature review they were again separated in three specified categories as 1) Economic Issues, 2) Managerial Issues and 3) Other Issues.

After that the study found out when these factories were closed and whether these closed factories were examined by Accord/Alliance/BUET inspectors. Finally, the labour numbers, working hours and implementation of the new minimum wage of labours were recorded to identify whether there was a relation between the closure and labour condition. This study thus rigorously examined the nature and the condition of the surveyed factories and also identified the reasons for closing down operating units in the apparel industry

4. Findings:

The findings from the study are presented in seven parts. It starts by giving a summary of the state of the factories in the survey (4.1). It then describes the common nature of the closed factories found in the survey (4.2) and explains the social compliance status regarding wage and operational hour in those factories (4.3). After that, the survey shows how many factories were inspected among the respondent factories (4.4) and what were the closing years of these factories (4.5). Then, the reasons of closure mentioned by the respondents are discussed (4.6). Finally, the major reasons of closure are explained through the short run shut down decision of firms (4.7)

4.1 Balance Sheet of listed closed factories:

As stated earlier (Table 1), 95 factories answered the survey questionnaire. It was found that 75 factories were closed as stated in the list by BGMEA. However, not all of the factories that were stated to have been closed in the BGMEA list were

actually closed. The survey found that 16 of the listed factories are still in operation (Table 2). The survey also examined the major location of the surveyed factories. It was found that most of the factories were located within the Dhaka city (73.43%) and the other 26.57 % factories were located outside Dhaka. The factories were concentrated within Mirpur, Ramna, Mohammadpur, Tejgaon and Dhanmondi areas. Also, outside Dhaka Gazipur, Ashulia and Savar had higher concentrations of the surveyed factories.

Table 2: State of the respondent Factories

State of the respondent factories	Total Number
The number of closed factories among the respondents	75 (78.95%)
The number of factories still operating among the respondents	16 (16.84%)
Missing Responses	4 (4.2%)
Total number of respondent factories	95 (100%)

4.2 Nature of the respondent closed factories:

The findings of field survey suggest that there are some common characteristics among the closed factories. Most of the closed factories were established very recently (Table 3). They operated in shared buildings and were small and medium manufacturers (Table 4).

Table 3: Life span in respondent factories

Factory Establishment Date	Number of closed factories	Life span of factories (years)
1980 to 1985	7(9.59%)	25.1
1986 to 1990	4(5.48%)	18.25
1991 to 1995	9(12.33%)	11.5
1996 to 2000	23(31.51%)	9
2001 to 2005	18(24.66%)	5.1
2006 to 2011	12(16.44%)	4.3
Total responses	73(100%)	-

Table 3 shows that the majority of closed factories were established between 1996 and 2011. About 31.51% of the closed factories were established during 1996 to 2000, another 24.66% were established between 2001 and 2005, and 16.44 % were established after 2006. Hence, 53 respondent closed factories (72%) were established between 1996 and 2011, indicating that new established factories have shorter life span compared to earlier-established factories among the surveyed factories.

Moreover, it was found that about 57 % or 40 factories among the respondents had less than 500 people working within their premises (Table 5). About 20 % factories had 501 to 1000 workers and other 17 % had between 1001 to 2000 workers

within their premises (Table 5). These figures indicate that most of the small and medium RMG factories operating in shared buildings had been found closed in this survey. The survey reveals that as many as 73 percent of factories operated in shared buildings (not shown in Table).

Table 4: Number of workers in the closed factories

Number of Workers	Number of closed factories among the respondents
Less or equal to 500 workers	40 (57%)
501 to 1000 workers	14(20%)
1001 to 2000 workers	12(17%)
More than 2000 workers	4(6%)
Total Response	70

4.3 Social compliance state among the respondent factories:

In this survey the wage payment and the operational hours of the surveyed RMG factories are considered as social compliance, considering the limitations of the survey¹. Table 7 states that most of the factories (about 68%) were operating on normal working hours (equal or greater than 10 hours per day). Though it indicates that most of the workers in the surveyed factories had to work for longer hours, it also states that they had work orders to finish on time. However, this table also depicts that the other 22 factories (32%) were operating under the natural operational time. Therefore, these factories were going through lower work orders.

Table 5: Working Hours among the surveyed closed factories

Working hours	Responses of the closed factories
Less than 8 hours per day	4(5.8%)
8 hours per day	1(1.5%)
9 hours per day	16(23.2%)
10 hours per day	1(1.5%)
11 hours per day	16(23.2%)
12 hours per day	23(33.3%)
More than 12 hours per day	8(11.5%)
Total responses	69(100%)

¹ Note: Operational Time: In the RMG factories of Bangladesh 8 hours of normal working hours and an addition of 2 hours of overtime, in total 10 hours' work time per day is considered as normal operational hours.

When the condition of the wage payment in these closed factories was observed, it was found that only 36 (out of 95 factories) respondents answered the questions regarding wage. Among the responses 20 factories claimed that the wages were given according to law to their workers and the other 16 factories did not give wages according to law (Table 6). It was also observed that 17 factories (among the 20 factories that gave wages following the law) paid the new minimum wage (implemented from December, 2013). However, by close inspection it was found that among the factories that claimed that they gave wages according to the law and implemented the new minimum wage, 16 of them are still operating. On the other hand, among the closed factories only 4 were reported to give lawful wages to the workers and only one of them had implemented the new minimum wage.

Table 6: Payment of wages and the state of the respondent factories

State	Wages are not given according to Law	Wages are given according to Law	Total Responses
Factories that reported the wage payment	16	20	36
Operating factories among respondents	0	16	16
Closed Factories among the respondents	0	4	4

4.4 Inspection Status:

This study did not find strong evidence regarding the relationship between the closure of the surveyed factories with the recent inspection by Accord/Alliance or BUET officials, although it was reported that 19 factories (till May 2014) were shut down following the recommendations of Accord/Alliance (The independent, 14 May 2014). Moreover, among the surveyed factories only 14 factories (14.75 %) among the 95 respondents were inspected by Accord/Alliance or BUET officials. Conversely, 4 of the inspected factories were forced to close down for structural flaws.

4.5 Closure years of the respondent factories:

This study also reveals that contrary to the BGMEA's claim most factories were not closed after the Rana Plaza incident (April, 2013). In fact, only 19 factories were closed between 2013 and April, 2014 (Table 7). This empirical data is consistent with the figures published in the national daily newspaper (The Independent, 14 May, 2014; The Daily Star, 5 May, 2014). Most of the factories were closed between 2006 and 2010 (Table 7). It also points out that the garment factories closure have been occurring at a state over the years, specially after 2001 among

small and shared factories that were not investigated earlier. However, after the Rana plaza tragedy and strong inspections by the local and foreign agencies the closure scenario of the factories was highlighted publicly.

Table 7: The closing year of the factories

Year	Number of closed factories
Before 2001	1(1.45%)
2001 to 2005	16(23.18%)
2006 to 2010	20(28.98%)
2011	4(5.79%)
2012	9(13.06%)
2013	12(17.39%)
2014 (January to April)	7(10.15%)
Total Responses	69(100%)

Hence, it is clear that the closure of these factories cannot be explained singularly by the recent compliance inspection by the local and foreign agencies. There exist in-depth economic and entrepreneurial reasons behind this type of closure in this manufacturing industry.

4.6 The reasons of closure:

The reasons mentioned by the respondents as reasons of closure of their factories are analysed. This part of the questionnaire was open-ended in nature, so that the real reasons of the shut - down of the factories surface out in the study. There were a total of 51 reasons given by the respondents when asked about why their factories were closed. However, they were then divided into 15 categories as most of the responses were similar in nature like labour mayhem, labour strike, problems among labours and the owner etc., that were put under the category of 'labour unrest'. This type of labeling was done to make the analysis more understandable.

The top three reasons behind closure that were mentioned by the respondents are fewer orders/buyers than before (26 responses), loss in business (23 responses) and mismanagement (20 responses). The top two reasons are closely linked with factory level economic issues. The other important reasons mentioned by the respondent factories were delivery failure, irregular wage payment and labour unrest. These responses are also divided into three broad categories to understand the nature of these reasons.

Table 8: Comparing the reasons of closure for RMG factories

Reasons for Closing	Total Responses	
Less orders/buyers than before	26	A. Economic Issues (57 responses)
Loss in business	23	I. Fewer orders/buyers than before
Mismanagement	20	II. Loss in Business
Lack of trust among the business partners	9	III. Lack of Investment
Shifting (to another place or to its own premise)	4	IV. Increasing Cost
Delivery failure	8	B. Managerial Issues (43 responses)
Irregular wage payment	7	I. Mismanagement
Labour unrest	7	II. Lack of Trust among the business partners
Lack of Investment	3	III. Delivery Failure
Prohibitory Order from Accord	3	IV. The rent contract of the building is finished
The rent contract of the building is finished	3	V. License Cancelled
Theft	5	C. Other Issues (19 responses)
License cancelled	3	I. Irregular Wage Payment
Increasing Cost	4	II. Labour Unrest
Other reasons	14	III. Prohibitory order from Accord
Total valid responses	139	

Figure 1: Multiple responses about reasons of closure

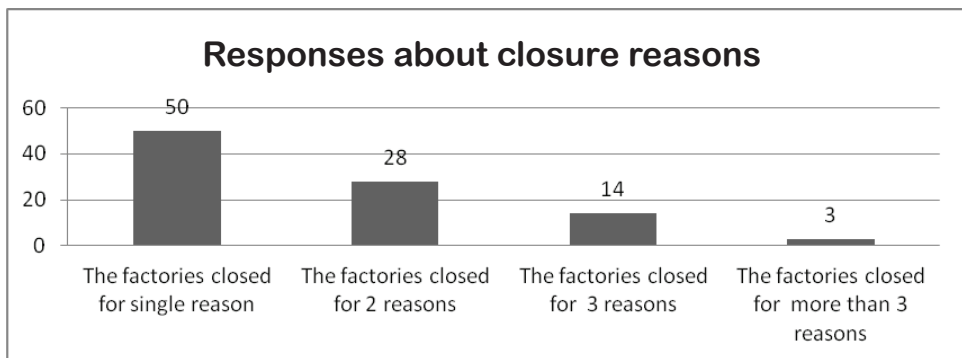


Figure 1 indicates that many respondents identified more than one reason for their factory closure. Hence, there were a total of 139 responses from a total of 95 respondents. Interestingly, most of the respondents mentioned single reason (about

50 respondents) for closing of their units. The other 45 respondents gave multiple reasons for closing.

Also, comparison of the reasons for closure from Table 8 under the three broad categories indicates whether economic, managerial or other issues closely related to labour issues were mentioned as major reasons by the surveyed factories. This analysis portrays that obviously economic issues were hampering the production of these closed manufacturing units. Also, the managerial issues and other issues specially related to irregular wage payment and labour unrest already existed in some of these factories. However, the economic issues are dominant because of the recent stand on marinating the compliance. On the other hand, mismanagement or managerial issues and labour issues that were also important reasons of closure among these factories, were ignored for a long time because of the short term profit making perspective of the owners. These problems have been ignored so long that the addition of the recent inspection and the requirement to pay the compliance cost may have added to the ongoing economic issues of these factories and put so much burden on some these factories that they were forced to shut down (19 factories according to Table 7). However, it is also clear that if these factories dealt with the economic and managerial issues along with maintaining the compliance standard beforehand, these factories would have dealt with this recent compliance and less order issues more effectively.

4.7 The short run shut-down principle of firms:

The phenomenon of recent shut-downs can be explained by the microeconomic principle of short run shut-down decision of firms (Mankiw, 2014). According to this theory a firm depends on its average variable costs while deciding if it will shut down or not. The firm's fixed costs or sunk costs (like rent, purchase of equipment, installments of bank loans etc.) do not have any bearing on whether the firm decides to shut down. At the profit maximizing level of output if the firm's average variable costs are less than its marginal revenue, the firm will not shut down in the short-run. This is because the firm is better off continuing its operations as it can cover its variable costs and use any remaining revenues to pay off some of its fixed costs. The fact that the firm can pay its variable costs is very important in the short-run because the firm must pay its fixed costs regardless of whether or not it decides to shut down. Of course, the firm will not continue to incur losses indefinitely. In the long-run, a firm that is incurring losses will have to either shut down or reduce its fixed costs by changing its fixed factors of production in a manner that makes the firm's operations profitable.

However, generally a firm will shut down production whenever its average variable costs exceed its marginal revenue at the profit maximizing level of output. If this is not the case, the firm may continue its operations in the short-run, even though it may be experiencing losses.

By analyzing the data of this empirical study, the researchers believe that a major portion of the firms studied were operating where the marginal revenue was below the average total cost curve as there were some problems like entrepreneurial inefficiencies and other issues that need in-depth research from some time (since 2006 from Table 7) . However, they continued production until the recent compliance issues hampered some of them from getting sufficient orders from the buyers (according to BGMEA since 2013). In this situation, these factories had to shut down in the short-run because they were unable to cover their average variable costs as the revenue from the produced apparel unit could not even cover the average variable cost.

Nonetheless, the firms may continue the production in future once the situation improves and the marginal revenue would be able to cover the average variable cost of producing apparel products. The empirical data slightly supports this as 11 factory owners of the closed factories are planning to establish new garment factories (Table 9).

Table 9: Owners' plan of establishing new factories

Owners Plan	Closed Factories	Operating Factories
Owner establishing a new garment factory	11	5
Owner is not planning to establish new garment factory	59	11
Total Responses	70	16
Missing Values	5	4

The statistics about the factory growth in Bangladesh published by BGMEA (2014) also supports the establishment of factories at a higher rate in the recent years. For example, in 2012-2013 about 450 new factories were established that were enlisted under BGMEA. It indicates that the RMG industry has the capacity to set up new factories and thus the closure of the surveyed factories may fall under the shutdown principle of firms rather than recent reforms on compliance.

5. Conclusion:

The empirical findings from the survey prove that government's decision regarding labour rights like minimum wage implemented in December, 2013 or inspecting compliance issues (Accord/Alliance initiative & other safety issues) are not solely or directly responsible for the closure of the factories interviewed in this study. In addition, BGMEA's claim that 176 factories were closed is wrong; the survey could interview only 95 factories from the list & among them 16 factories are still operating (as of June, 2014)

These factories had already had issues for a long time because of the characteristics of their manufacturing units. The study found out that most of the closed factories were newly set up (after 2001) and operated in rented shared buildings inside Dhaka city. Also, they were sub-contractors and had very small number of workers (500 or less). The labour rights were violated in these factories severely as most of the factories made workers work more than 10 hours per day and among the closed factories only 4 were reported to give lawful wages (Table 6). Hence, these factories were already struggling with managerial and labour issues and probably operating at a situation where their marginal cost was below the total variable cost. It was also reported by close circles that when workers demand their rightful wages some garment factory owners threatened to shut down the factories and about 300 factories were shut down for five consecutive days just to give the workers a lesson.

Recently, the strong initiative by foreign buyers and ILO in following safety standards, structural safety of the buildings and inspection of factories have added extra pressure on these units. The study found that there was lack of enough work orders in some of the factories due to retailers' unwillingness to give orders in factories working in shared spaces with risky structural, electrical and fire conditions. However, BGMEA's claim that all the factories in the list were closed because of reform in the garment industry like upgrading compliance & ensuring minimum wage could not be empirically established in this study.

Nonetheless, the study found that lack of orders from the buyers was one of major reasons for closing as it puts pressure in the vulnerable situation of these factories that were on the path of closure because of other past issues. Therefore, government's role in planning exit proposal & setting necessary conditions for laying off workers will be inefficient in the long run, as these factories have internal management problems along with entrepreneurial inefficiency.

The findings from a study on Cambodian apparel factories suggested that there was little evidence that improving working conditions or compliance issues increase the probability of closure (Brown, Dehejia & Robertson, 2011). In fact according to the study some of those factories increased their probability of survival due to improvements in compliance issues. Ahmed, Greenleaf and Sacks (2014) mentioned that, apparel brands may choose to exit the Bangladeshi market for countries such as Cambodia and Sri Lanka, which have built reputations as destinations for ethical sourcing of readymade garment. Hence, in the long run the garment factories of Bangladesh have to learn to be complaint with international standards if they want to maintain their competitiveness in the world apparel market.

Therefore, training the owners of these factories to learn about the nature of the garment industry & how the consumer preference of the western buyers are moving would help them to be more competitive. Moreover, providing them skills to establish relationship with foreign buyers and learning how to maintain the minimum level of compliance and thus increase their orders would help them sustain in this business in the long run.

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