



Impact of the Reform of Liberalization on Employees' Productivity of Ethiopian Leather Industry

Dr. BREHANU BORJI

**Phd, ASSOCIATE PROFESSOR IN MARKETING MANAGEMENT
SCHOOL OF MANAGEMENT AND ACCOUNTING
COLLEGE OF BUSINESS AND ECONOMICS
HAWASSA UNIVERSITY, ETHIOPIA**

ABSTRACT

Although the concept of productivity is a widely used subject by politicians, economists, engineers, and media, it is often vaguely defined and poorly understood. In practice, this lack of knowledge results in productivity being ignored by those who are preaching about it in order to influence production process. Thus, the objective of this study is to discuss the basic meaning of the term "productivity" and its relation to employees' motivation and performance. Moreover, the study attempted to see whether a new reform has brought about any significant change on employees' performance and resulted in higher productivity than ever before. To this effect, the study employed secondary data collected from various sources as may be shown under methodology. The collected data were substantiated using structured interview to officials at different posts working in the industry. As the study used two matched samples pre- and post- liberalization periods, a paired t-test is used to verify the set hypothesis using Microsoft Office Excel for computations. Finally, the study results indicated that a new economic reform has brought about a significant change on productivity of employees of Ethiopian Leather Industry

Key words: Productivity, performance, motivation, new economic reform, leather industry.

INTRODUCTION:

The current global business arena has become highly competitive and competitiveness has become a major focus area of firms and companies across the globe (Porter, 1990; IMD, 2006; WEF,

2007; Pillania, 2007; Pillania, 2008). Business organizations across the world are under increasing pressure than ever before to stay dynamic and responsive in all their competitive frontiers because of a new economic reform called 'liberalization'. Organizations have to become efficient and effective in their operations in order to survive, sustain and grow in the dynamic environment. They have to become more productive than their rivalries in the market place. It has to design strategy to maintain a competitive advantage in a competitive market. According to Rastogi (1988), productivity represents decreasing inefficiency and increasing effectiveness of the organization thereby honing a competitive edge. Honing their edges make the organizations more perfect in all aspects of competition in the current dynamic environment. As added by Rastogi, productive efficiency is of crucial importance for managing inflation by lowering costs of goods, services, and commodities consumed by people. Productivity is the essential prerequisite for increasing exports, achieving export led growth, attaining techno-economic development and generating wealth for investment, consumption and social welfare. This research work is an attempt to study the impact of a new economic reform on productivity with special reference to Ethiopian Leather Industry.



LITERATURE REVIEW

In this part, the study attempted to discuss the related literature review written on employment, motivation and productivity by different authors. Motivation has been taken into consideration because to increase productivity, the employees have to be committed and motivated to perform more than ever before.

EMPLOYMENT RELATED LITERATURE

According to authors in personnel area when employment is considered, the following things must be fulfilled in advance before the task of employment actually takes place: 1) there must be an organization with the objective of employment requirement, 2) there should be personnel management department or section with the knowledge of how and under what conditions employment or appointment should be undertaken. As stated by the British Institute of Personnel Management "Personnel Management is that part of the management function which is concerned with people at work and with their relationship within an enterprise. Its aim is to bring together and develop into an effective organization the men and women who make up an enterprise and, having regard to the well being of an individual and of working groups, to enable make their best contribution to its success.

According to P.C. Tripathi (1999: 4), the operative functions of personnel management include procurement, development, compensation, integration, maintenance and records, research, and audit. According to him, procurement is mainly concerned with the hiring of personnel – the right people, in the right place, at the right time. This function deals specifically with such subjects as the determination of manpower requirement and their recruitment, selection and placement. Development pertains to the training and education of the hired personnel, their morale building, effective communication network, promotion and transfer plans, suggestions system and similar other plans. As he rightly puts, compensation deals with the methods and standards of remuneration with emphasis upon such activities as job evaluation, wage system,

monetary incentives and terms of employment. On the other hand, integration is concerned with the attempt to bring about a reasonable reconciliation of individual and organizational interests. Maintenance function aims at maintaining good working conditions in and favorable attitudes towards the organization. Record keeping, as stated by Tripathi, is necessary for exercising control over personnel activities and for doing research. Personnel audit helps to evaluate the effectiveness of various personnel policies and procedures and indicates a further course of action.

According to National Institute of Personnel Management, there are three main concerns of industrial management, viz, machines, material and men. The last one - men is very crucial without which the first two are soul-less and cannot work. This shows the importance of human element in any organization.

As far as the appointment of employees is concerned, the appointment of employees in Leather industry in Ethiopia is based on permanent and casual basis. According to Dehub Negarit Gazeta, when an organization wants to fill vacancies, they are, may be filled through recruitment, promotion, or transfer on the basis of human resource planning. Article 13 of the Dehub Negarit Gazeta states that: 1) there shall be no discrimination among job seekers or civil servants in filling vacancies because of their ethnic origin, gender, religion, political outlook or any other ground, 2) a vacant position may be filled by a person who meets the qualification required for the position and scores higher than other candidates, 3) without prejudice to the provisions of sub-articles (1) and (2) of this article, preference shall be given to a) female candidates, and b) members of nationalities comparatively less represented in the government offices.

When there are vacant positions in leather industry, they announce vacancies to attract prospective applicants who could meet the minimum requirement and conduct official recruitment. Recruitment is the process of searching for and obtaining applications so as to build a pool of job seekers from the right people for the right jobs may be selected. According to William B. Werther and Keith Davis (1993: 195),



recruitment is the process of finding and attracting capable applicants for employment. The process begins when new recruits are sought and ends when their applications are submitted. The result is a pool of applicants from which new employees are selected. Next to recruitment, the logical step in appointment process is selection of qualified and competent people. According to Thomas H. Stone (1989: 173), selection is the process of differentiating between applicants in order to identify (and hire) those with a greater likelihood of success in a job.

Based on selection, the required applicant has to be selected and hired. After an applicant has been hired, he or she must be oriented and placed on the chosen job. The purpose of orientation is to introduce a newly hired member with other fellow workers, working environment, and rules and principles pursued by the organization. According to Robert L. Mathis and John H. Jackson (1982: 225), orientation is planned introduction of employees to their jobs, their co-workers and organization.

Successful candidates placed on jobs need training to perform their duties effectively. Workers must be trained to operate machines, reduce scrap, and avoid accidents. According to Randall S. Schuler (1989:385), training and development is any attempt to improve current or future employee performance by increasing an employee's ability to perform through learning, usually by changing the employee's attitude or increasing his or her skills and knowledge to put in his maximum effort to increase organizational productivity. The need for training and development is determined by employee's performance deficiency, computed as follows: *Training and development need = standard performance – actual performance*. Training is required when actual performance is less than standard performance because of not knowing how to operate or not understanding the objective the organization pursues to achieve as per plan.

After providing formal training and development, the next step is performance appraisal. In simple term, performance appraisal may be understood as the assessment of an individual's performance in a systematic way, the performance being measured

against such factors as job knowledge, quality and quantity of output, initiative, leadership ability, supervision, dependability, co-operation, judgment, versatility, health and the like.

According to Randall S. Schuler (1981: 221), performance appraisal is a formal, structured system of measuring and evaluating an employee's job related behaviors and outcomes to discover how and why the employee is presently performing on the job and how the employee can perform more effectively in the future so that the employee, organization and society all benefit. After performance appraisal, the next step to follow is employee remuneration for his or her performance. As many writers on remuneration do agree, remuneration is the compensation an employee receives in return for his/her contribution to the organization. Remuneration occupies an important place in the life of an employee. *His or her standard of living, status in society, motivation, loyalty, and productivity depends upon the remuneration he or she receives*. For the employer too, employee remuneration is significant because of its contribution to the cost of production. Besides many battles (in the form of strikes and lock-outs) are fought between the employer and employees on issues related to wages or bonus. Remuneration of an employee comprises wages and salary, incentives, fringe benefits, perquisites, and non-monetary benefits.

MOTIVATION RELATED LITERATURE

According to Dubin (1974), "Motivation is the complex force starting and keeping a person at work in an organization. Motivation is something that moves the person to action and continues him in the course of action already initiated." As stated by McFarland (1974), "Motivation refers to the way in which urges, drives, aspirations, strivings, or need direct, control, or explain the behavior of human being. Motivation is a goal directed behavior and it has an influence on human behavior. It harnesses human energy and effort to organizational requirements. Motivation is related to satisfaction. Satisfaction refers to the contentment experiences of an individual which he drives out or need fulfillment. Thus, satisfaction is a consequence of reward and punishment associated with past experiences.



Motivation derives an individual for work. Motivation is based on motive which is a feeling that an individual lacks something. This feeling creates some sort of tension in his mind. To overcome this tension, he engages himself in goal-directed behavior, which is taking those actions through which his needs are satisfied. Thus, motivation becomes a prime mover for efforts and better work performance. An individual obtains a reward for his performance. Reward, as a result of individual's performance affects his level of motivation. If the reward is perceived to be of valence and equitable, it energizes the individual for still better performance and this process goes on (Prasad, 2004). As many writers may agree to it, motivation urges and initiates individuals to perform more and more up to their maximum effort which in turn leads to productivity.

According to Rastogi (1988), productivity is strongly related to the *culture of society and motivation of employees*. A motivated employee uses resources economically, efficiently, and effectively with great care for resources and processes. Culture also plays a determinant role in directing workers to work- place and making them to use resources efficiently and effectively. Culture also initiates and motivates society for a higher performance. "Productivity is the relationship between outputs of goods and services and the inputs of the basic resources- labour, capital and natural resources" (Kendrick, 1980). Change in output per unit of measured inputs is change in productivity (Denson, 1962).

PRODUCTIVITY RELATED LITERATURE

The concept of productivity, generally defined as the relation between output and input, has been available for over two centuries and applied in many different circumstances on various levels of aggregation in the economic system. It is argued that productivity is one of the basic variables governing economic production activities, perhaps the most important one (H. Singh et al, 2000). Productivity is an average measure of the efficiency of production. It can be expressed as the ratio of output to inputs used in the production process, i.e. output per unit of input (Saari, 2006).

In fact, productivity is frequently discussed by managers but rarely defined, often misunderstood and confused with similar terms, and seldom measured in an appropriate way, leading to productivity being disregarded to the extent that contra productive decisions are taken. According to Koss and Lewis, remarkably many managers who everyday make decisions about improving plant efficiency and effectiveness do not know how to answer the simple question: "*what do we really mean by productivity?*" Nevertheless, if we do not fully understand what productivity is, how can we decide what productivity measures to use? How can we interpret them correctly? How can we know what action to take to improve productivity? Evidently, the confusion surrounding the subject makes it increasingly necessary to further investigate and emphasize the basic meaning of productivity (Forrester 1993).

According to Rastogi (1988), productivity is a multifaceted phenomenon. It denotes an increasingly efficient and effective use of resources of land, labour, capital, and technology. It subsumes a number of diverse aspects like: i) optimum utilization of available and potential resources, assets, and capacity, ii) effective management of projects without time and cost escalations iii) waste avoidance in the use of materials, machines, energy, time and other inputs, iv) labour cost and/or higher quality goods and services, v) modernization of plants, and machinery, vi) development of technology and pursuit of innovation, vii) dedicated managerial leadership and viii) full utilization and exercise of human talents, creativity and skills. All these lead to the creation of national wealth. Increasing national wealth can raise living standards because more real income improves people's ability to purchase goods and services, enjoy leisure, improve housing and education and contribute to social and environmental programs. Productivity growth also helps businesses to be more profitable. But, when there is productivity growth, even the existing commitment of resources generates more output and income. Income generated per unit of input increases. Additional resources are also attracted into production and can be profitably employed.

Productivity growth is a crucial source of growth in living standards. Productivity growth means



more value is added in production and this means more income is available to be distributed. At a firm or industry level, the benefits of productivity growth can be distributed in a number of different ways (Abramovitz, 1956):

- to the workforce through better wages and conditions;
- to shareholders and superannuation funds through increased profits and dividend distributions;
- to customers through lower prices;
- to the environment through more stringent environmental protection; and
- to governments through increases in tax payments (which can be used to fund social and environmental programs).

Productivity growth is important to the firm because it means that it can meet its (perhaps growing) obligations to workers, shareholders, and governments (taxes and regulation), and still remain competitive or even improve its competitiveness in the market place. He also added that if the business is more profitable, it pays more to better the living standards of its employees. After having achieved the living standard of the society, then it pays more attention for economic well-being in order to satisfy human needs. Economic well-being is created in a production process, meaning all economic activities that aim directly or indirectly to satisfy human needs. The degree to which the needs are satisfied is often accepted as a measure of economic well-being.

According to Rastogi, productivity and innovation are crucial for the socio-economic development of nations. As argued by him, the grim pressures of unemployment, underdevelopment, inflation and poverty, and the resultant unrest and schisms within a society are largely the consequences of its low and/or declining productivity. When productivity activities are managed intelligently, diligently, and harmoniously, a nation prospers. The reverse is also true. If resources are not managed and utilized properly and efficiently, the cost of using the resources will be high, which is the contradictory performance to productivity. Thus, the poverty of nation is an outcome of weakness in the organization and management of

their production resources (V. Mariappan and K.Chidambaram 2003).

Productivity stands for composite efforts of all the factors contributing to production. So productivity indicates the overall efficiency of the organization. The usefulness of productivity indices has been recognized in all industries around the world. Michael Porter (1992) of Harvard University says the only meaningful concept of competitiveness at the national level is productivity. Further, he states “the principal goal of a nation is to produce a higher and rising standard of living for its citizens. The ability to do so depends on the Productivity with which a nation’s labour and capital are employed. A nation’s standard of living depends on the capacity of its companies to achieve higher levels of productivity, and to increase productivity over time. Production, productivity, innovation, organization, management and employment are social processes required to manufacture product. As stated by Rastogi, they involve the participation of social actors, viz, industrialists, businessmen, managers, engineers, technicians, workers, farmers, political leaders, scientists, planners, policy makers, bureaucrats, administrators, accountants, salesmen, clerks and so on.

STATEMENT OF THE PROBLEM

As many writers do agree to, productivity is the result of the performance of people. Performance of people depends on how they are motivated to perform that specific type of work. Performance is determined by the amount of effort, ability and role perception of the individual. If an individual is lacking ability and/or has wrong role perception, his performance is found to be unsatisfactory in spite of his putting great efforts (Singh and Chhabra, 1996). Productivity signifies a continual striving towards the economically most efficient mode of production of goods, commodities and services needed by a society. Productive efficiency is of crucial importance for managing inflation by lowering the costs of goods, services and commodities consumed by people. Productivity is the essential prerequisite for increasing exports, achieving export led growth, attaining techno-economic development and generating wealth for investment, consumption and social welfare



(Rastogi, 1988). This all can be achieved through growth in productivity. Growth in productivity may be achieved in two ways: 1) improvement in efficiency which leads to higher output even with a given state of technological knowledge. Higher output results from superior organizational methods, improved management practices, higher motivation and competence of workers, accumulation of gains from learning and experience, more intelligent mechanisms for adaptive and anticipatory planning, and a better information base for policies and decisions, 2) higher effectiveness of new production technologies resulting from innovation and technical advance. This leads to quantum jumps on output levels, and/or new and better types of output. The given input level in relation to output may even decline in terms of cost and quantity. The two kinds of productivity growth may interact with each other in a mutually supportive manner (Rastogi 1988).

As it can be seen from the definitions of productivity, productivity may be achieved by minimizing and/or eliminating such things resulting in inefficiency. In leather industry, there are problems that hinder the organization from achieving the desired productivity. According to Yibralem Abadi, the following are identified as problems and constraints for development of the leather industry in Ethiopia:

- Poor livestock management,
- Poor quality raw material supply as a result of ante-mortem and post-mortem handling of hides and skins,
- Higher cost of production because of poor production management,
- High rejection rates of unsellable products
- No economic growth,
- Low off-take and recovery rates,
- Lack of skills, technology, intermediate inputs and processing equipment,
- Stiff competition among the existing tanners and low selling price,
- Low utilization of industry capacity,
- Poor linkages among different organizations involved with hides and skins.
- The relative lack of export support and/or promotion services,

- Lack of hard currency to purchase spare parts and inputs,
- Poor technology,
- Outdated machineries,
- Poor infrastructure and bureaucratic red-tape.

SIGNIFICANCE OF THE STUDY

Even though there were detrimental problems that could seriously affect the productivity of leather industry in the area, no research was conducted to bring about solutions that minimize inefficiencies and increase productivity in the industry. It was this gap that initiated the researcher to undertake this study. The beneficiaries of the findings of this study are the government, the sector of leather industry, ministry of trade and industry, libraries, researchers and scholars who would like to further investigate in the area.

GENERAL OBJECTIVE OF THE STUDY

The general objective of this study is to assess the impact of the reform of liberalization on employment and productivity of Ethiopian Leather Industry.

SPECIFIC OBJECTIVES

- To assess the impact of liberalization on public and private sector employment in Ethiopian leather industry.
- To examine whether liberalization has a significant impact on public and private sector establishments,
- To assess factors affecting the productivity of Ethiopian Leather Industry
- To assess and give some policy options about future improvement of leather industry in Ethiopia

HYPOTHESIS OF THE STUDY

- a) Liberalization has no significant impact on both public and private sector employment in Ethiopian Leather Industry.



- b) Liberalization has no significant impact on both public and private sector establishments in Ethiopian Leather Industry.
- c) Liberalization has no significant impact on productivity of Ethiopian Leather industry

RESEARCH METHODOLOGY

The study used both primary and secondary data. However, more focus was given to secondary data. The study used data before -liberalization and after-liberalization. To this effect, it used the written information that includes the time period between 1981 and 2004. The data were collected from the following sources: Central Statistical Agency (CSA), Ministry of Trade and Industry, Ethiopian Export Promotion Agency, Annual Government Reports on Industry, National Bank of Ethiopia, Institution of Ethiopian Studies at Addis Ababa University and Ministry of Foreign Affairs. The data that were not sufficient from the secondary sources have been substantiated supplemented from the primary sources by conducting structured interview to the pertinent officials at different levels of posts in the industry. Therefore, the focus of study was on secondary data. This is comparative study which made use of Analytical as well as Empirical research. Analytical research because the study had to use facts or information already available and analyzes it to arrive at sound conclusions. It also used

empirical research because, in such a research, the researcher must provide himself with working hypothesis and works to get enough facts (data) to prove or disprove the hypothesis. Such a research is appropriate when proof is sought that certain variables affect other variables in some way (Kothari, 1985). The study attempted to see whether liberalization as an economic reform has brought about any significant change on productivity of Ethiopian Leather Industry, taking time period pre- and post-liberalization. To this effect, the study covered the time period between 1981 and 2004. This time period was divided into two equal portions as pre- and post-liberalization periods. In assessing the impact of liberalization, the study followed pre- and post-liberalization comparison, taking time period 12 years before liberalization and 12 years after liberalization. Through empirical analysis on the variables stated in hypothesis part, it is believed that it would be possible to gauge the success or failure of the new economic reform launched since 1992 in Ethiopian Leather Industry. Various statistical tools such as ratios, correlation analysis, percentages, measures of central tendencies, graphs and charts are used to evaluate the data as the study is based on time series data in order to test the impact of liberalization on productivity of Ethiopian Leather industry. The study also used a paired t-test as two matched samples were used in the study.

DATA ANALYSIS

HYPOTHESIS TESTING

- a) Liberalization has no significant impact on both public and private sector employment in Ethiopian Leather Industry.

Table 1: Employment in both public and private sectors (1981-2004)

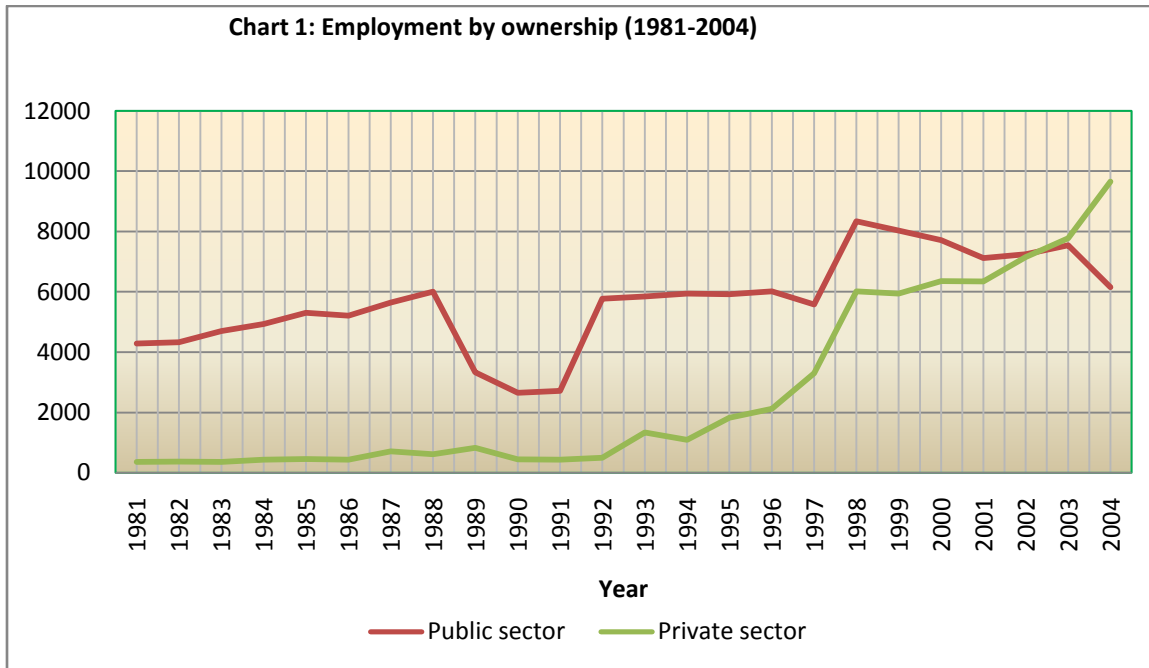
Year	Employees		
	Public sector	Private sector	Total
1981	4296	361	4657
1982	4339	369	4708
1983	4711	362	5073
1984	4940	436	5376



1985	5314	457	5771
1986	5214	436	5650
1987	5648	709	6357
1988	6007	621	6628
1989	3338	831	4169
1990	2659	443	3102
1991	2727	432	3159
1992	5773	494	6267
1993	5853	1336	7189
1994	5944	1091	7035
1995	5924	1824	7748
1996	6016	2128	8144
1997	5587	3307	8894
1998	8344	6022	14366
1999	8034	5944	13978
2000	7718	6362	14080
2001	7126	6354	13480
2002	7248	7156	14404
2003	7550	7780	15330
2004	6164	9662	15826

Source: CSA 1981-2004

The next to be tested is that “*Liberalization has no significant impact on public and private sector employment in Ethiopian Leather Industry.*” To this effect, the data of 24 years were collected and analyzed to see the impact of liberalization on employment in both public and private sectors in Ethiopian Leather Industry. If there is significant difference in the number of employees when the comparison is made between the data before- and after-liberalization, it is due to the impact of liberalization on employment. The 24 years data are presented in Table 5, here above. From the data given in the table, the following Chart is drawn to analyze the impact of liberalization on employment of Ethiopian Leather Industry.



Source: Table 4

As it can be clearly seen in Table 1 and Chart 1, the number of employees in public sector is greater than that of it in private sector up to 2003. This is because the public sector facilities have not been completely privatized. When pre-liberalization data were considered, the public sector employment constituted 90.2 percent whereas the private sector employment consisted of only 9.8 percent. However, when the post-liberalization data were dealt, the public sector employment constituted 58 percent and that of private sector increased to 42 percent. Even though there was increasing trend in the private sector after liberalization period (from 9.8 percent to 42 percent), still the number of employees in the public sector was higher than that of it in the private sector because many of public sector ownership has not been transferred to the private sector. Even though that was the general fact, there was decreasing trend in public sector from 90.2 percent to 58 percent after-liberalization. From this, we can conclude that “Liberalization has a significant impact on employment of both private and public sectors in Ethiopian Leather Industry.” To verify the fact, t-test has been employed in table 2, here under.

Table 2: One-Sample Test

Pre -and post-liberalization employment in public and private sector in ELI	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Public sector employment	18.122	23	.000	5686.417	5037.30	6335.54
Private sector employment	4.418	23	.000	2704.875	1438.39	3971.36

Source: SPSS output computed from Table 1

According to Table 2, the calculated t-value is greater than the table t-value at alpha 0.05 and df= 23. As a result, the impact was significant and the null hypothesis is rejected and alternative hypothesis is accepted. Therefore, “liberalization has a significant impact on the public and private sector employment in Ethiopian Leather Industry”.

Table 3: Paired Samples Test

Pair 1= pre-and post-liberalization employment in private sector	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 VAR00001 - VAR00002	-3986.09091	2468.71005	744.34409	-5644.59288	-2327.58893	-5.355	10	.000
Pair 2 VAR00003 - VAR00004	-2377.36364	1503.99875	453.47269	-3387.76375	-1366.96352	-5.243	10	.000

Source : SPSS output computed from Table 1.

In Table 3, pair 1 shows pre- and post-liberalization employment in private sector whereas pair 2 shows pre-and post-liberalization employment in public sector. A paired t-test is used to see whether liberalization has a significant impact on employment in both public and private sectors in Ethiopian leather industry. The test was made at $\alpha = 0.05$ and $df = 10$. As it can be seen from Table 3, the calculated t-value is greater than the table t-value. As a result, the null hypothesis was rejected and alternative hypothesis was accepted which states "liberalization has a significant impact on public and private sector employment.

Table 4: Correlations

		VAR00001	VAR00002	VAR00003	VAR00004
VAR00001	Pearson Correlation	1	-.050	.091	-.070
	Sig. (2-tailed)		.877	.777	.829
	N	12	12	12	12
VAR00002	Pearson Correlation	-.050	1	.485	.600*
	Sig. (2-tailed)	.877		.110	.039
	N	12	12	12	12
VAR00003	Pearson Correlation	.091	.485	1	.456
	Sig. (2-tailed)	.777	.110		.137
	N	12	12	12	12
VAR00004	Pearson Correlation	-.070	.600*	.456	1
	Sig. (2-tailed)	.829	.039	.137	
	N	12	12	12	12

*. Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS output computed from Table 1.

Variable 1 and 2 in Table 4 show public sector employment before and after liberalization respectively. Variable 2 and 3, on the other hand, show private sector employment respectively. Pearson Correlation coefficient for public sector employment before liberalization and after liberalization was -0.050 which shows inverse relationship. This is because, after 1995/6 public sector facilities were transferred to private sector through privatization agency. Thus, after 1998 employment started declining which was gradually increasing before that time. In table 4, Pearson correlation coefficient for private sector employment pre-and post-liberalization was 0.456 which shows weak positive relationship. This is because, before liberalization private sector employment was very small and gradually increasing up to 1992. After 1992, it started increasing at increasing rate. Thus, correlation was significant at the 0.05 level (2-tailed).

B) Liberalization has no significant impact on productivity of Ethiopian Leather industry

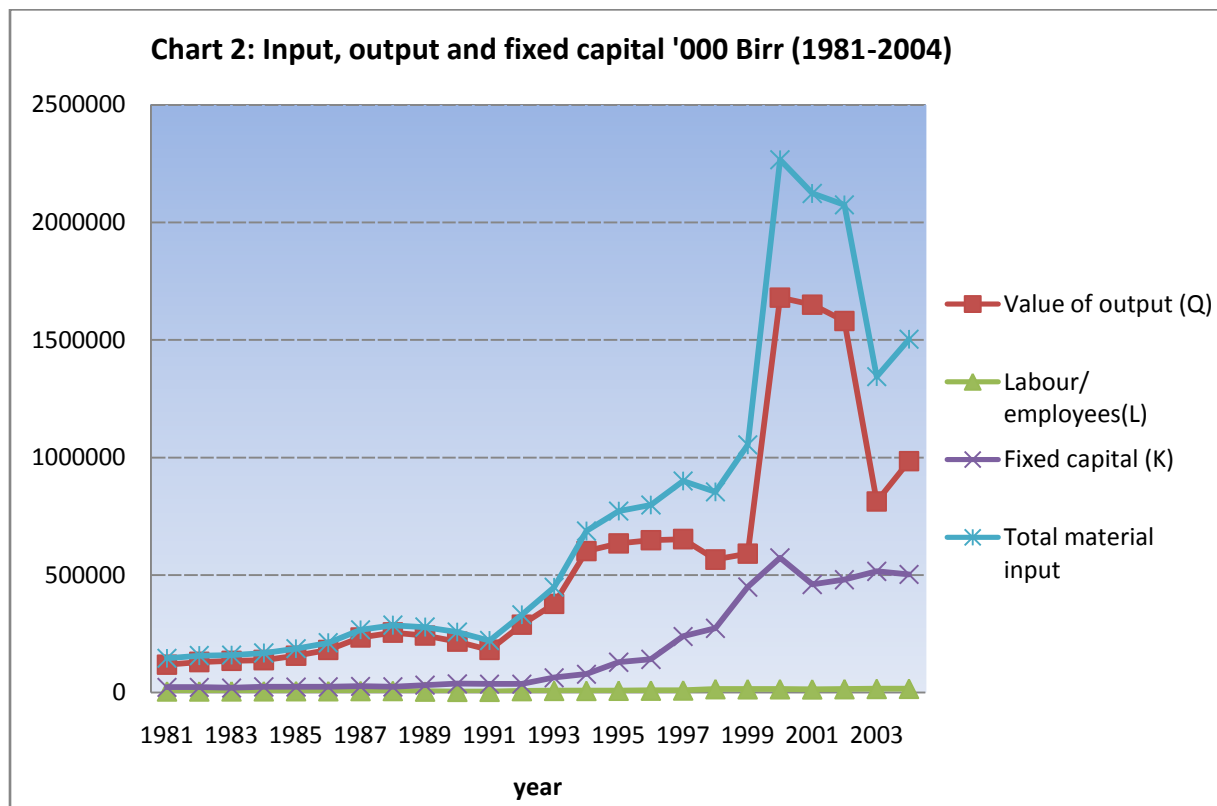


The last hypothesis to be tested is “Liberalization has no significant impact on productivity of Ethiopian Leather Industry.” To this effect, value of output, labour and capital starting from 1981-2004 for 24 years were collected and presented in Table 4. To evaluate the post-liberalization impact, the collected data were divided into two categories as pre-liberalization and post-liberalization period.

Table 5: Output and input of leather industry (labour in number and the rest in ‘000 Birr) (1981-2004)

Year	Value of output (Q)	Labour/ employees(L)	Fixed capital (K)	Total material input
1981	118313	4657	21959	144929
1982	129851	4708	21858	156417
1983	134003	5073	19434	158510
1984	137671	5376	24062	167109
1985	156537	5771	23375	185683
1986	180858	5650	24109	210617
1987	233584	6357	25609	265550
1988	254912	6628	24076	285616
1989	242370	4169	31011	277550
1990	216177	3102	37025	256304
1991	181593	3159	35708	220460
1992	288033	6267	35240	329540
1993	376970	7189	62686	446845
1994	601358	7035	77950	686343
1995	634500	7748	128895	771143
1996	648357	8144	140999	797500
1997	652486	8894	238109	899489
1998	565695	14366	272997	853058
1999	591124	13978	448080	1053182
2000	1680078	14080	572443	2266601
2001	1650624	13480	459204	2123308
2002	1580984	14404	479478	2074866
2003	813127	15330	514846	1343303
2004	984678	15826	501926	1502430

Source: CSA (1981-2004)



Source: Table 5

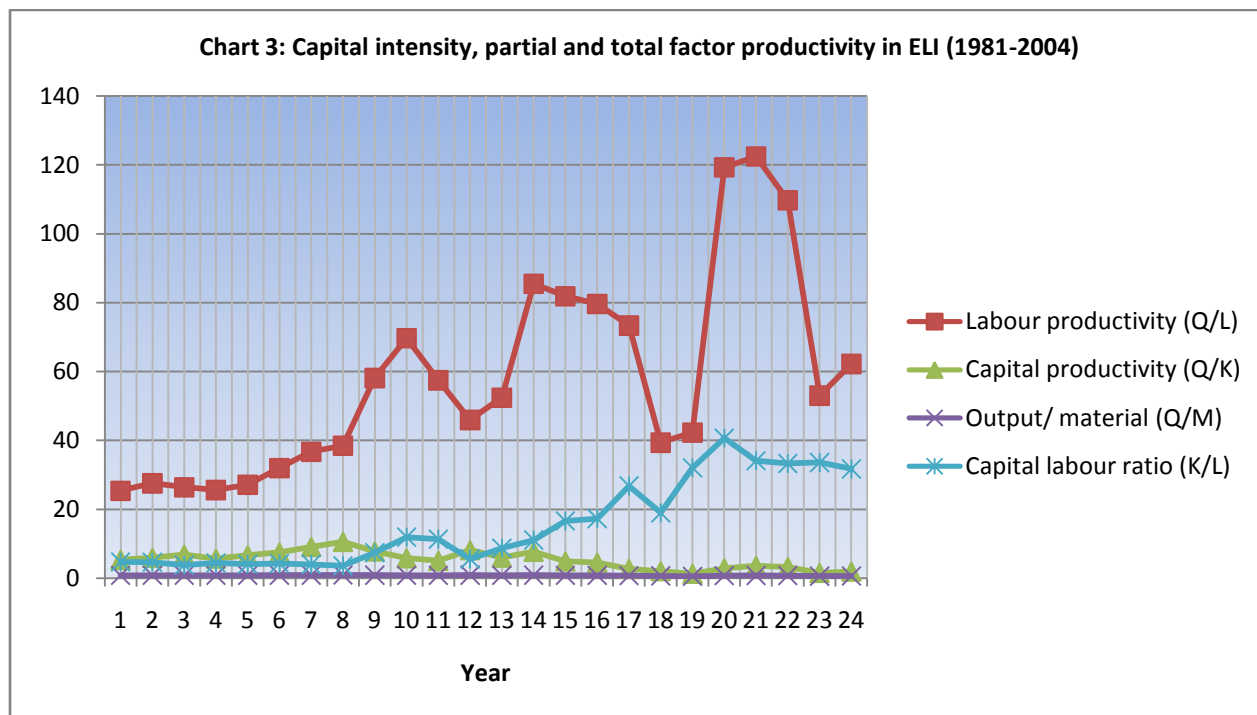
As it can be clearly seen in Chart 2, value of output is greater than the value of material input and labour input for the entire period of time (1981-2004), which is very normal situation. However, before liberalization, the output was slightly increasing and inputs were low and constant up to 1992. After 1992, the output and input started increasing up to 2001, except labor input in the public sector as it could be seen from Chart 2. As it can obviously be seen in Chart 2, the number of employees in the public sector was declining after 1996 because of privatization effect. Pearson correlation result also supports this fact showing inverse relation of employment before and after liberalization. The number of employees in the public sector declined starting 1996 because a number of public sector establishments were transferred to private sector. Because of this effect starting 1998 number of employees started declining in the public sector. Exploiting the same opportunity, the number of employees in the private sector started increasing at increasing rate after the reform of liberalization. As a result, the number of employees decreased in the public sector and increased in the private sector. However, the sum total of employees after liberalization was increasing because of increase of employees in the private sector even though there was decrease in the public sector. Fixed capital has been gradually increasing starting from the beginning up to 2004.



Table 6: Capital intensity, partial and total factor productivity in Ethiopian Leather industry (1981-2004)

Year	Labour productivity (Q/L)	Capital productivity (Q/K)	Output/ material (Q/M)	Capital labour ratio (K/L)
1981	25.40541121	5.387904732	0.816351455	4.715267339
1982	27.58092608	5.940662458	0.830159126	4.642735769
1983	26.41494185	6.895286611	0.845391458	3.830869308
1984	25.60844494	5.721511096	0.82383953	4.475818452
1985	27.12476174	6.696770053	0.843033557	4.050424536
1986	32.01026549	7.501679871	0.858705613	4.267079646
1987	36.74437628	9.121168339	0.879623423	4.02847255
1988	38.45986723	10.58780528	0.89249902	3.632468316
1989	58.1362437	7.815613814	0.873248063	7.438474454
1990	69.68955513	5.83867657	0.843439821	11.93584784
1991	57.48433048	5.085499048	0.823700445	11.30357708
1992	45.96026807	8.17346765	0.874045639	5.623105154
1993	52.43705661	6.013623457	0.843625866	8.719710669
1994	85.48088131	7.714663246	0.876177072	11.08031272
1995	81.89210119	4.922611428	0.82280459	16.63590604
1996	79.61161591	4.598309208	0.812986834	17.31323674
1997	73.36249157	2.740282812	0.725396308	26.77186868
1998	39.3773493	2.072165628	0.663137794	19.00299318
1999	42.28959794	1.319237636	0.56127431	32.05608814
2000	119.3237216	2.934926272	0.741232356	40.65646307
2001	122.4498516	3.594533149	0.777383215	34.06557864
2002	109.7600666	3.297302483	0.761969207	33.28783671
2003	53.04155251	1.579359653	0.605319128	33.58421396
2004	62.2190067	1.96179915	0.655390268	31.71527866

Source: Calculated by present author from Table 5.



Source: Table 6

For the time period 1981 – 1992, labour productivity was lower 2273902/60917(33.7) and after liberalization it increased and reached to 10779981 / 140474 (76.7). Before liberalization, labor productivity was lower because of poor capacity utilization, outdated technologies and machineries, poor maintenance and excess manpower. This made the industry oblivious to the inefficient utilization of resources thereby increasing the production cost. Thus, profitability was low. However, after liberalization, as it can be seen from Table 6 and Chart 3, labour productivity started increasing gradually, of course sometimes decreasing for the reasons mentioned here above. Labor productivity after- liberalization increased to 76.7 by the ability of the industry to raise output per worker. For after-liberalization period, value of output increased 10779981 – 2273902/ 2273902 (3.74 times or by 374%) whereas labour increased only 1.3 times or by 130 percent (104474-60917/60917). This clearly shows that output per worker increased 2.88 times (3.74/1.3). If it is not possible to raise output per worker, there will not be any productivity in the industry, and therefore it will not contribute to the growth of economy.

High labour productivity can be achieved, among other things, for the following three reasons: 1) labour can become more skilled over time embodying greater amount of human capital, 2) new capacities can come up using better technologies that increase the quantity of output produced from the same amount of inputs, including labour, 3) the new techniques that substitute capital for labour can also increase output per worker. These 1-3 factors which are mentioned here above came to existence because of liberalization. Before liberalization, labor skill was limited. The industry also used only limited capacity. The transfer of technology was low because borders were not open for import and export.

Capital labour ratio before liberalization was 5.3 and after liberalization it rose to 27.7. This fact also can be seen from Chart 3. In the same chart, capital labour ratio was low up to 1992 and it started increasing only after 1993. After liberalization (1993-2004), capital labour ratio in the industry started to increase very fast. The increase has been resulted because after liberalization the amount of capital in the industry was increased by 1104.9 percent and it became



excess. In contrast, the number of employees in the industry increased only by 130 percent. Capital labour ratio is increasing because highly increased capital is being divided by the moderately increased labour ($1104.9/130 = 8.5$ times).

The astonishing event took place in capital and material productivity. As it has been discussed so far, labour productivity and capital labour ratio were decreasing before-liberalization and increasing gradually after the reform of liberalization. However, the case of capital productivity and material productivity was completely different after liberalization. Capital productivity, before liberalization, was decreasing because the utilized capital was lower than which has been used after liberalization. When low amount output is divided by low capital, obviously the quotient will be low. But after liberalization, the amount of capital used in the industry increased tremendously (by 1104.9 percent) with the hope of yielding wealth in the near future. For example, the capital used for land development and construction purpose will not yield the output until they are completely become operational. Until then, the money used on them is believed to be idle as it is not generating any income in the short-run. Therefore, capital productivity is low after liberalization, because the existing output is being divided by the increased amount of capital. The amount of capital has increased because of capital investment and acquisition. The second astonishing event was material productivity of Leather Industry before and after liberalization. The second completely unexpected event which was found decreasing after the reform of liberalization was material productivity. As shown in Table 6 and Chart 3, material productivity was declining after liberalization. It was declining because of such reasons as obsolete machines, high material cost, low yield of material, low quality product and low demand for it, and substitution effect. Because of these reasons, low material input is not yielding high output per used material input. Therefore, material productivity has been decreasing after liberalization (Table 6 and Chart 3). The value of output proved that it is decreasing 0.28 times per worker ($130/457.4$). This is because, material input increased by 457.4 percent after liberalization whereas output

increased by 130 percent only. From this it can be concluded that the impact of liberalization was significant on productivity of Ethiopian Leather Industry. The impact was in increasing for labour productivity and capital intensity. However, it was in decreasing for capital productivity and material productivity after liberalization.

CONCLUSION AND RECOMMENDATIONS:

CONCLUSION

- When the share of before liberalization employment is considered in both the sectors, it was 90 percent in public sector and only 10 percent in private sector. However, after liberalization period, the share of public sector declined to 42 percent and that of it in the private sector rose to 58 percent shooting from 10 percent before liberalization period. Hypothesis test conducted by taking t-test also proved this fact. According to the test, the calculated t-value is greater than the critical t-value. As a result, the null hypothesis is rejected and the alternative hypothesis is accepted. *Liberalization, therefore, has a significant impact on both public and private sector employment in Ethiopian Leather Industry. The impact of liberalization was inverse for public sector and positive for private sector employment..*
- Value of output has increased more than the total value of material inputs because of employees' productivity. After-liberalization, labour productivity was increasing because more output was produced per worker than ever before.
- Capital intensity/ Capital-labour ratio/ was also increased after-liberalization because more capital was employed in expectation of generating or yielding more wealth in the near future.
- Capital productivity was decreasing because more capital was used for capital investment and capital acquisition, which could actually not yield any output in the gestation period in the short-run. Capital has been acquired beyond required level and hence used inefficiently. Thus, idle capital is resulted in the decline of capital



productivity after liberalization in the short-run. However, in the long-run when capital investment starts yielding output, the situation may be reversed and the graph which was currently running downward can run upward in the long-run. Until that point of time, the industry has to arrest further capital acquisition and expand labor and material use.

- Material productivity was also declining post-liberalization period because of inefficient utilization of material to produce the required output. This came to happen because of poor capacity utilization, outdated technology and machineries, poor maintenance of plants because of the shortage of spare parts, low skill of workers, high costs of material inputs, low yield of raw materials, low quality of raw material and the like. Thus, these constraints require the attention of the pertinent body.
- A paired t-test used to examine the hypothesis proved that “liberalization has a significant impact on productivity of Ethiopian Leather Industry.
- According to Table 4, Pearson Correlation coefficient for public sector employment before liberalization and after liberalization was -0.050 which shows inverse relationship. This is because, after 1996 public sector facilities were transferred to private sector through privatization agency. Thus, after 1998 employment in public sector started declining which was gradually increasing before that time. In the same table, Pearson correlation coefficient for private sector employment pre-and post-liberalization was 0.456 which shows weak positive correlation. This is because, before liberalization private sector employment was very small and gradually increasing up to 1992. After 1992, it started increasing very fast at increasing rate. Thus, correlation was significant at the 0.05 level (2-tailed).

To conclude based on all the discussions conducted on all the variables under consideration,

the impact of liberalization was significantly high on Ethiopian Leather Industry.

RECOMMENDATIONS

1. ELI has to train its workforce. The trained workers will have the potential of increased skill, knowledge and ability to perform better and fast. Trained workers are supposed to minimize or avoid accidents and produce quality products which can attract the attention of users.
2. The process of liberalization should continue giving it due attention as overdose of liberalization can inflict severe misery to the economy of the country in general and to the operation and market performance of ELI in particular. These all changes are believed to have resulted due to economic liberalization. Thus, the concerned body should give due attention to the processes of liberalization in all sectors of economy.
3. To increase the productivity of ELI, old machineries and plants have to be replaced by technologically advanced machineries and plants.
4. The industry has to give due attention towards solving problems discussed under the statement of the problem. If the problems are not addressed properly, it is impossible to bring about the productivity at the desired level.
5. The industry has to make hard effort to increase its production capacity. Currently, there are only 6 tanneries which could produce and export finished products. The rest 18 tanneries produce semi-processed products. However, currently ELI exports only finished products. The industry should modernize these 18 tanneries to produce and export finished products. This effort can increase the price of raw hides and skins in the value chain and help suppliers to benefit from the operation. Currently, the price of raw hides and skins have been seriously fallen and discouraging its suppliers.



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