

THE DE-INDUSTRIALIZATION OF BULAWAYO MANUFACTURING SECTOR IN ZIMBABWE: IS THE CAPITAL VACUUM TO BLAME?

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Abstract

Deindustrialization has been a major feature of developed economies as they transform from industry based economies to services sector based. In recent years less developed nations have largely encountered immature deindustrialization whilst the tertiary sector remains at its infancy. This study focuses on the causes of deindustrialization in the city of Bulawayo in Zimbabwe, which has become a major concern for the economy. It adopts a twofold approach in the analysis of results by applying both inferential and descriptive methods. The study identifies unavailability of capital and funding, fall in demand, untenable wages and an unfavorable tax environment as the chief determinants of deindustrialization in the city.

Keywords: Deindustrialization, globalization, GDP, outsourcing, Foreign Direct Investment

INTRODUCTION

The decade long economic crisis in Zimbabwe, stretching from 2000 to 2009, has seen the economy shrinking to its lowest ever. Industries were closing, services sector firms were either shutting down or downsizing due to viability challenges. The agricultural sector was not spared either and virtually every firm was operating below sustainable capacity.

The adoption of the multicurrency regime and an improvement in political risk, among other factors, have seen the economy regaining strength. The majority of firms that had closed reopened with mining firms anchoring the economy. Harare, the capital city of Zimbabwe, has been enjoying a recovery of manufacturing firms whereas Bulawayo city, which used to be the industrial hub of Zimbabwe, is facing significantly more downfall of the manufacturing sector.

The deindustrialization of Bulawayo has worsened the plight of its citizenry that largely depended on the manufacturing hub. Schweibberger and suedekum (2009) define deindustrialization as a fall in the share of the output of the industrial sector in the nation's GDP or the share of industrial employment in total employment. Although the share of the industrial output in GDP is a good indicator of the level of deindustrialization, many studies have applied the employment approach to measure deindustrialization. While employment is regarded as the most used indicator of the level of economic development, Saeger (1997) argues that it is also extremely good as a measure the size of the industrial sector.

There has widely been two ways to measuring deindustrialization – either by focusing on the contribution of the industrial output to national economic output or the share of industrial employment to national employment. This study considers the latter approach by considering the fall in industrial employment as a measure of deindustrialization.

LITERATURE REVIEW

Causes of deindustrialization

Literature has found an association between economic maturity and deindustrialization. Empirical evidence has shown that as economies reach maturity, the manufacturing and agriculture industries decline whilst the service sector would be prospering.

Globalization has led to a gradual shift from the manufacturing sector towards the services sector in the developed world (Yumkella et al, 1999 and Wood, 1994). In the African economies most literature has found that de industrialization has mostly been a result of faster growth in the productivity of the manufacturing sector compared to the services sector. This has resulted in a fall in the employment levels in the manufacturing sector and a rise in services sector employment. Other authors attribute de-industrialization to a shift by economies towards outsourcing where companies buy components and inputs from affiliate offshore companies or through sub contracts.

Regardless of these views, Brady (2006) argues that globalization has had been relatively small in the context of the scale of the world trade to significantly affect the deindustrialization of the developed world. This view is cemented by Rowthon and Ramaswamy (1998) who concluded that the principal cause of de- industrialization in developed countries is a rise in productivity. They present a U- shaped relationship between per capita GDP income and industrial employment.

Bluestone and Harristone (2000) report that the deindustrialization process is not a stand-alone concept but rather develops from the industrialization phase. With economic development increasing, the industrial employment will be rising as well but at the expense of

agricultural employment up to a level when the industrial sector reaches maturity. After this, industrial employment will begin to decline and the tertiary sector employment starts to outdo the industrial sector.

Wolf (2004), Bamoul (1989) and Bluestone and Harristone (2000) conclude that the fall in employment of the industrial sector relative to other sectors has mainly been a result of high growth in industrial productivity relative to other sectors. Empirical evidence has shown that to maintain employment when productivity has risen, output must also increase otherwise employment will decline since a rise in productivity implies that less labor would be required to do the same job.

The Rawthorn models by Rawthorn and Ramaswamy (1997) cement on this relationship and contend that the chief cause of de-industrialization is the increase in productivity. They present that deindustrialization is an inherent outcome of the economic development process hence a positive development. They explain three phases in economic development that have been experienced in the developed economies: (1) The growth in the agricultural sector that was followed by (2) the industrialization stage in which the manufacturing sector outperforms the agricultural sector as a result of mechanization and then (3) the deindustrialization phase where the services sector outperforms the industrial sector.

Using the differentiation- saturation model, Brady and Denisten (2006) conclude that there is a bell shaped relationship between industrial employment and globalization. When economies are operating at lower levels of employment, globalization will bring about higher levels of employment due mainly to specialization and development. However at higher levels of globalization, industrial employment starts to decline because of excessive competition, specialization (the relocation or threat of relocation which may force employees to accept retrenchment) and what Brady and Denisten (2006) term mimetic isomorphism – industries copying each other's practices.

The preference of people to spend more on services rather than manufactured goods as well as fierce competition from the developing world such as Asia and Latin America coupled with technological advancement have mostly been the chief drivers of deindustrialization in the developed economies.

Whilst authors such as Yumkella et al (1999), (Wolf) 2004, Bamoul (1989), Bluestone and Harristone (2000) argue against globalization on the basis of its undesired effect on deindustrialization, Wood (1994) presents that on the contrary, globalization has had mixed results –it has culminated in a significant rise in employment for the developing world as they capitalize on their competitive advantage although this has led to the deindustrialization of the developed world.

This result, accompanied by lack of beneficiation, has seen Africa experiencing a fall in the export of manufactured products which has as well fuelled the scale of deindustrialization in Africa.

Premature de-industrialization

Samirul (n.d.) identifies two forms of de-industrialization:

- The positive de-industrialization which supports the Rowthorn model and Sundaram et al. (2011) and posits that this deindustrialization results in increases in real incomes and full employment.
- The negative deindustrialization which is a result of excessively high labor costs and the inability to adapt to changes in market conditions among others. In this case real income falls and full employment is not achieved as aggregate employment falls. In this form of deindustrialization firms lack the necessary capacity to offer higher value added products as well having no industrial deepening.

Michie (1997) coined this *pre mature deindustrialization* and points out that it occurs as a result of economic failure as opposed to economic dynamism. He attributes it to low investment and cost cutting programs in place of capacity enhancement as well as unfavorable economic and industrial policy that may result in overvalued exchange rates and excessively high interest rates that reduces the competitiveness of products and business confidence.

Whilst all the majority of authors focus on the deindustrialization of the developed world, Sundaram et al. (2011) focus on the de – industrialization of African economies. He presents that the weakening of the manufacturing sector in Africa has mostly been due to the structural adjustment and liberalization of the economies as these economies were embracing globalization. The effect of globalization on African economies was mixed – African infant industries were exposed to intense global competition from the developed economies.

Most of the economies in Africa face serious challenges in terms of poor infrastructure, critical shortage of skills and limited Foreign Direct Investment to the extent that it has culminated eventually in a sharp decline in the scale of the industrial sector that only remains with obsolete equipment and unutilized capacity which only yield higher costs as compared to the developed world and the emerging economies of Asia.

Literature shows that most of the research on deindustrialization has primarily focused on the developed world and the newly industrialized economies with emphasis on the link between globalization and deindustrialization.

METHODOLOGY

A survey was employed to collect primary data from various companies that are facing viability challenges and have had retrenchments or are likely to have retrenchments in Bulawayo's manufacturing sector focusing on the post recession era dating from 2009. Manufacturing companies of all sizes were considered from Small and Medium Enterprises to big corporates. A total of 33 companies participated in this survey across the manufacturing sector.

The study utilized both primary and secondary data to evaluate the causes of deindustrialization of Bulawayo. The main data collection tool used was a questionnaire since much of the information sought needed a considered response and reference to records and collected in a standardized way. Interviews were also conducted on few companies, with the questionnaire as the interview guide, to collect detailed information to enable proper analysis of a problem. Secondary data on the financial statements was also collected in cases where available as a control measure to check the accuracy of the information supplied in questionnaires though some firms could not supply financial statements for strategic reasons.

Whilst many studies have focused on the increase in productivity of the manufacturing sector as the main cause of deindustrialization, this study takes a different approach and focuses on issues such as capital unavailability, international competition capacity utilization, high wage commitments, profits and demand among others. Productivity is assumed constant over the period under consideration.

The study adopts a twin approach in the analysis of data by using both descriptive and inferential methods. It starts by looking at inferential statistics and then focuses on descriptive measures. Categorical regression is used to quantify the categorical data through assigning numerical values to the categories to enable optimal scaling that gives an optimal linear regression equation for the transformed variables.

Regression is used to model the relationship between level of employment and capital, output, wage rate, tax incentives and funding cost. In this test the change in unemployment(Y) is regressed against change in capital (C), output (Q), the wage rate (W), tax environment (T) and funding cost (F) in the following model at 5% level of significance.

$$Y = \beta_1 + \beta_2 C + \beta_3 Q + \beta_4 W + \beta_5 T + u$$

$H_0: \beta_1 = \beta_2 C = \beta_3 Q = \beta_4 W = \beta_5 = 0$ [there is no relationship between the fall in unemployment and any of capital, demand as measured by output, wage rate tax environment and funding cost]

$H_1: \text{Not all slope coefficients are simultaneously zero [there is a relationship between unemployment and at least one of the determinant factors.]}$

ANALYSIS & RESULTS

Inferential results

The CATREG model summary table from the results illustrates a high R^2 of 92% with as adjusted R of 88% as illustrated in table 1 below.

Table 1 : Model Summary

Multiple R	R Square	Adjusted R Square
.958	.919	.882

The results indicate that there is a valid relationship between the change in unemployment and capital, output, the wage rate and tax incentives. Since the p value is less than 5% we conclude that the model as a whole is significant and valid. Tables 2 and 3 below show the ANOVA table and the standardized coefficients for the independent variables.

The study shows that capital and wage rate are very strong predictors of the fall in unemployment with a significance of 0.000 whilst output and tax incentives show a valid but weak relationship with unemployment. The results conclude that there has been no significant relationship between unemployment and the cost of funding since the p value for the funding cost exceeds 5%.

Table 2 : ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	30.315	10	3.031	24.835	.000
Residual	2.685	22	.122		
Total	33.000	32			

Table 3 : Coefficients

	Standardized Coefficients				
	Beta	Std. Error	df	F	Sig.
capital	.465	.098	2	22.494	.000
output	.165	.077	3	4.634	.012
wage rate	-.291	.076	2	14.635	.000
tax incent	.259	.080	2	10.583	.001
funding cost	.125	.065	1	3.638	.070

Capital has a CATREG beta of 0.465 with a p value of 0.000 confirming the importance of funding to the existence of any enterprise. There is need for both short term finance for operating activities on day to day basis and long term funding for capital asset procurement. This result justifies the general sentiment that the suffocation of Bulawayo industrial companies has been caused chiefly by the capital vacuum that is currently bedeviling the sector.

Demand, as depicted by output, has a beta of 0.165 with a p-value of 0,012. Since the p-value is less than the level of significance of 5% at which the model was run, we conclude that lack of demand has been a driver of deindustrialization of the city though it has not been as strong a determinant as funding.

Wages have a strong beta of -0,291 as well as a strong p – value of 0,000 indicating that the fall in employment levels (and hence the closure and downsizing of firms) in Bulawayo has also been significantly driven by unsustainable wages. Such a condition occurs under what Samirul (n.d.) coins the “negative deindustrialization.”

The tax environment factor shows a CATREG beta of 0,259 with a significance of 0,01. We thus conclude that it has been a significant determinant of the deindustrialization of Bulawayo. However funding cost has not been a significant factor since, despite a beta of 0,125, it has a p – value of 0,070 which is above the 5% level of significance. We thus conclude that since the p- value exceeds the level of significance, the funding cost has not been a relevant predictor of the downsizing and closure of manufacturing firms in Bulawayo.

The study thus indicates that the deindustrialization of Bulawayo was chiefly a result of 1) lack or unavailability of adequate funding, (2) excessively high and unsustainable wages, (3) a fall in demand as indicated by the fall in output and (4) an unfavorable highly taxing and inconsiderate tax regime.

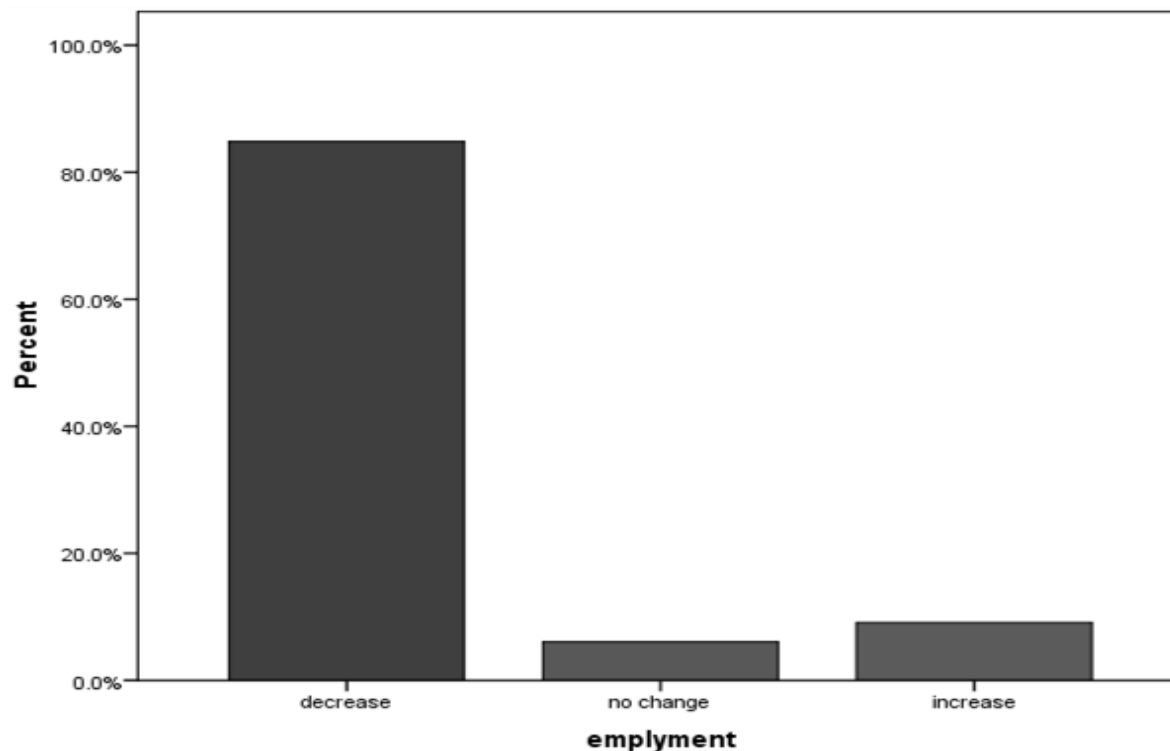
This confirms Samirul’s concept of negative deindustrialization which results in extremely untenable wage costs and an inability by firms to adapt to the dynamics of market conditions. The fall in aggregate employment and real incomes accompanied by the lack of necessary capacity to offer higher value added products as well as lack of industrial deepening has become the major feature of today’s manufacturing firms.

Descriptive results

Employment

The study indicates that 85% of companies in Bulawayo experienced a sizable reduction in employment between 2009 and December 2014 while 6% maintained their employment figures and 9% increased their workforce marginally.

Figure 1: Employment

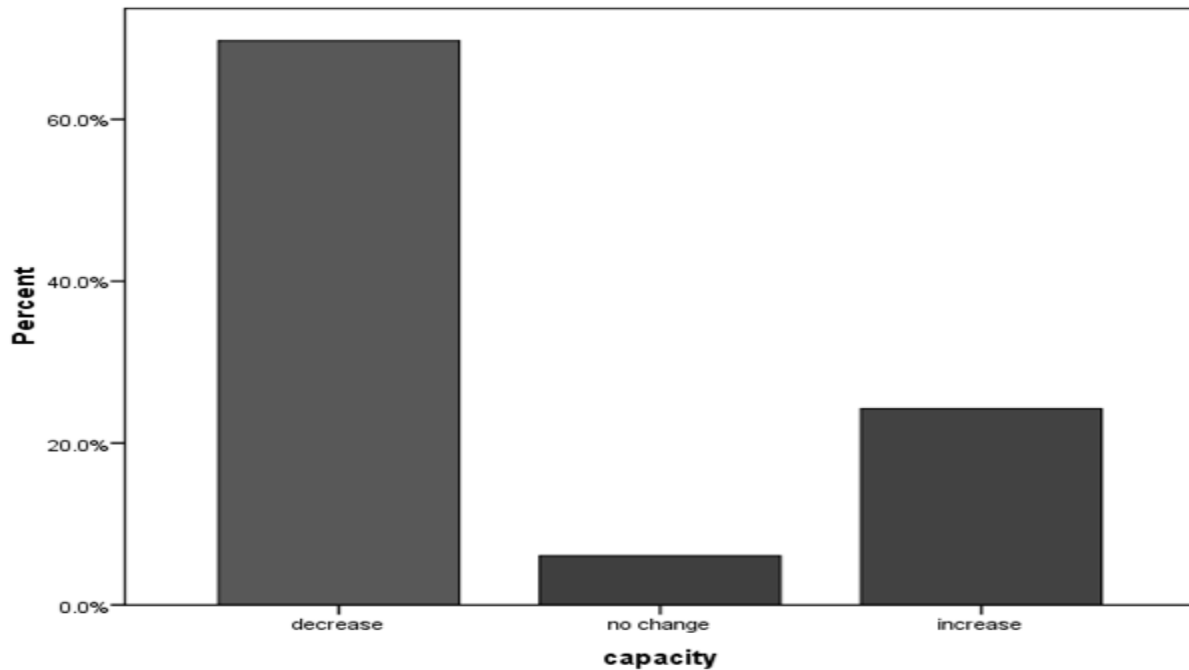


This indicates a significant scale of deindustrialization in the city of Bulawayo, as measured by the fall in industrial employment since the adoption of the multicurrency regime. Companies attributed the fall in employment to significant losses that were incurred, lack of capital to finance operations, fall in demand and stiff competition from abroad as well as the reluctance by employees to accept lower wages among others.

Capacity

Capacity utilization is an important ingredient in the growth of any industry. Unutilized capacity represents an opportunity cost in the lost production or the alternative use that has been forgone. Most industries in developing nations experience high levels of unutilized capacity because of loss of demand to foreign competitors and outdated equipment which makes cost of production unbearable. Results on the trend in capacity utilization are as shown in Figure 2 below.

Figure 2: Capacity utilization



70 percent of the companies experienced a fall in capacity over the period under consideration whilst 6% are still operating on the same capacity level as in 2009 and 24% are now operating at an increased capacity utilization level. The fall in capacity utilization rate is to be expected since most of these companies experienced a fall in demand and employment levels despite the adoption of the multicurrency that was meant to stabilize and promote economic activity.

Profit

Profit is not only the ultimate goal of any prudent private undertaking but justifies the existence or otherwise of the company. No investors will be willing to inject funds in companies that are doomed to fail as even the most patient form of capital is guided by the profit incentive.

The study shows that the majority of the organizations suffered a decline in losses over the period (73%). They attributed this to a fall in demand due to the liquidity crises that ensued the post Zimbabwean dollar era. Other companies reported in availability of patient capital and favorable sources of debt funding as critical and major drivers of losses. Despite these challenges a sizeable number of companies (27%) still managed to record increases in profits. These attributed their success to the production of necessity products like sanitary wear and protective clothing as well as basic food items.

Table 4: Profit

	Percent	Cumulative Percent
decrease	72.7	72.7
increase	27.3	100.0
Total	100.0	

The increase in untenable losses possibly explains the massive scale of company closures in Bulawayo as claimed by firms. The companies presented that abnormal losses were the ultimate triggers of firm closures.

Access to loans

Funding underpins the growth of any sector and any industry that lacks funding suffocates. The emerging markets in the Asian economies have been propelled by massive and cheap funding. The results indicate that access to loans was reported to be a challenge to most of the industrial companies. The majority of the companies have poor access to loans from the financial institutions as these companies require collateral which most of the small manufacturing firms cannot afford. Table 5 shows that seventy six percent reported poor access to funding and twelve percent had fair access whilst twelve percent had reasonably satisfactory access to funding. This goes to support the view that funding has been the major source of stagnation of development in developing countries such as Zimbabwe.

Table 5: loan access

	Percent	Cumulative Percent
poor	75.8	75.8
fair	12.1	87.9
good	6.1	93.9
very good	3.0	97.0
excellent	3.0	100.0
Total	100.0	

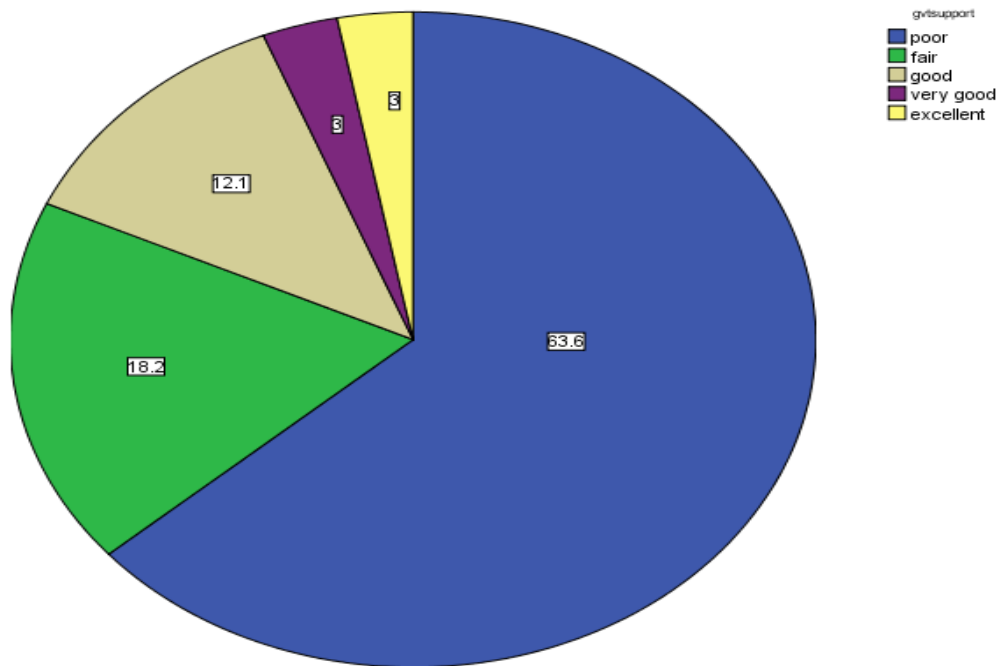
Government support

Government support is critical for the development of the industrial sector especially in developing countries where this sector is still at its infancy and where financial institutions are reluctant to support these industries. These industries usually face stiff competition from cheap international products which suffocates local demand hence they are delicate and need special

attention from the government. To this end the government of Zimbabwe introduced the Distressed Industries Marginalized Areas Fund (Dimaf) to support distressed companies.

Despite this, a significant proportion of the manufacturing companies is not happy with the level of government support they are receiving. From the results, 64% of the companies report poor government support while 18% report fair support, and 18% are comfortable with the support rendered by the government. This is illustrated in the Figure 3 below.

Figure 3: Government support



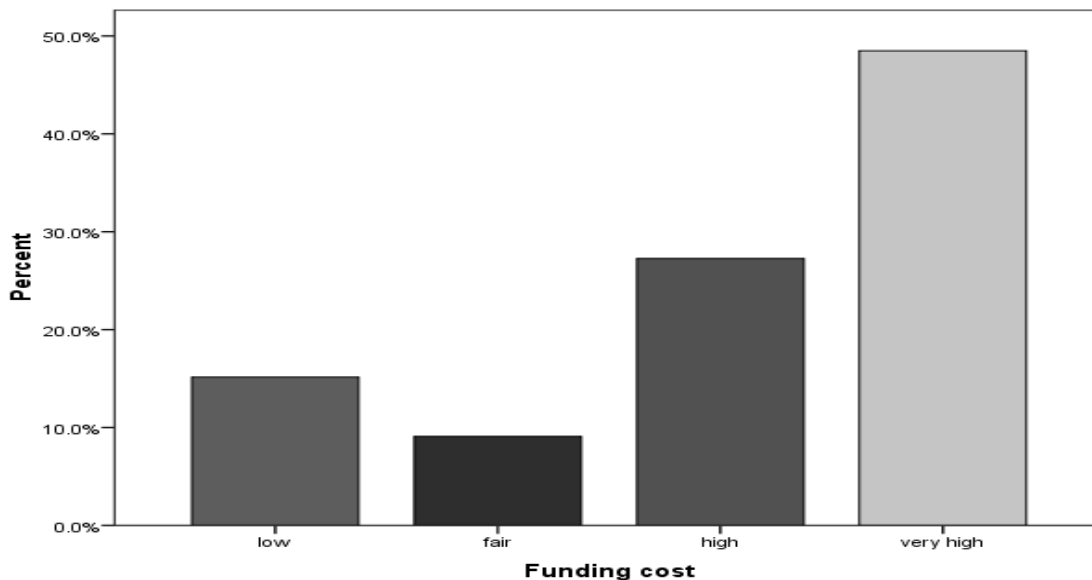
Companies however are getting adequate support from local authorities. Results indicate that local authorities are giving them good payment windows for rates and licenses and some are getting staggered payment plans to enable them to recuperate. The city council has wavered the rationing of water in industrial areas so as to promote the industry.

Funding cost

High cost of funding in developing countries has been suffocating the growth of industries in the less developed nations. The results indicate that the majority of manufacturing firms (76%) in Bulawayo access funding at a high cost which increases their operating expenses and stifle growth. Many companies are accessing loans at a rate as high as 25% to 30% per year and hence end up struggling to repay the debts. Some have had their assets attached as a result of failure to repay. This has led to a number of retrenchments as these companies were forced to

sell some of their equipment with some closing departments that are loss making. Figure 4 below illustrates how the companies are securing funds.

Figure 4: Funding cost



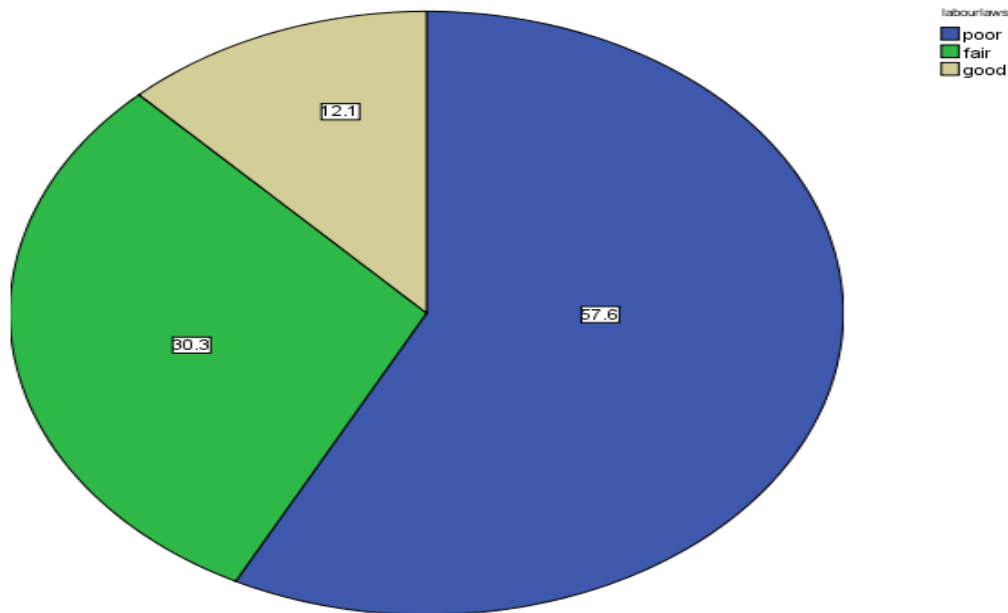
Labor skills

Despite the massive retrenchments characterizing the industries in Bulawayo, the investigation shows that the industry has confidence in the quality of the manpower. Quite a majority (88%) reported good to excellent quality in labor skills whilst only 12 percent expressed discontent with the quality of labor they are employing. This tempts us to imply that the deindustrialization of Bulawayo has not been a result of poor or falling quality of labor skills.

Labor laws

The research indicates that many companies feel hard done by the countries' labor laws which they argue are inclined towards the employees. Companies indicated that the labor laws over empowered the worker as they do not have the ability to adjust the wages in line with productivity and economic conditions. It is extremely difficult to reduce the wage rate without consensus of the employee hence many companies have been forced to retrench as workers reject reductions in wages. Fifty eight percent report that current labor laws are poor and negatively affecting them whilst forty two percent report that labor laws are not bad. This is illustrated in Figure 5 below.

Figure 5: Labor laws



The research reports a general content on the provision of water and electricity services by the council and power authorities. Companies expressed satisfaction with improvement in the supply of water and electricity since the adoption of the multicurrency regime. This has enabled the industries to save on fuel expenses for backup power generators that had become the main source of power during the pre multicurrency era.

CONCLUSION

Growth of industry is an important ingredient for the growth of Bulawayo and the nation at large hence the need resuscitate and prioritization the sector. The study recognizes that whilst lack of funding was a significant contributor to deindustrialization of Bulawayo, there are other primary factors that had a hand and these include the unavailability of capital, low demand, untenable wages and an unfavorable tax environment. Besides, subordinated factors such as lack of access to loans, low capacity utilization, accumulation of losses, lack of government support, high cost of funding and unfavorable labor laws have fuelled the plight of Bulawayo industries. Regardless of the deindustrialization, the quality of labor has marginally improved. The research was ground on the premise of constant productivity of the labor over the period under review and so might have overlooked the contribution of productivity to the employment decisions of companies. Some companies did not have financial statements for verification of supplied information in which case the study had to rely on responses from the companies.

The study stresses the need to ensure availability of funding for the distressed companies to aid their survival. The sector needs to adapt new and cheaper methods of production if it is to be able to fight competition from foreign competitors who have taken the major share of the market. Similarly the government should consider supporting these companies by way of tax incentives and other measures and there is need to consider amending the country's labor laws which are largely inclined towards the worker.

REFERENCES

- Baumol, W. J. (1989). *Is There a U.S. Productivity Crisis?* Science, 243(4891)
- Bluestone, B. & Harrison, B. (2000). *Growing Prosperity: The Battle for Growth with Equity in the 21st Century*. Houghton Mifflin
- Bogliaccini, J. A. (2013). *Trade Liberalization, Deindustrialization, And Inequality Evidence from Middle-Income Latin American Countries*. Latin American Research Review, 48(2).
- Brady, D. & Denniston, R. (2006). *Economic Globalization, Industrialization and Deindustrialization in Affluent Democracies*. Social Forces, 85 (1).
- Clingingsmith, D. & Williamson, J. G. (2005). *India's Deindustrialization in the 18th and 19th Centuries*. Harvard University.
- Dasgupta, S & Singh, A (2006). *Manufacturing, Services And Premature De-Industrialisation In Developing Countries: A Kaldorian Empirical Analysis*. Centre for Business Research, University Of Cambridge.
- Kollmeyer, C. (2009). *Explaining Deindustrialization: How Affluence, Productivity Growth, and Globalization Diminish Manufacturing Employment*. American Journal of Sociology 114(6).
- Kutscher, R. E. & Personick, V.A. (1986). *Deindustrialization and the Shift to Services*. Monthly Labor Review.
- Michie, J. (1997). *An Experience of Deindustrialisation - Lessons From Britain's Industrial Performance Since 1960*. Transformation 33.
- Noorbakhsh, F & Paloni, A. (n.d.). *The State of Industry in Sub-Saharan African Countries Undertaking Structural Adjustment Programmes*. University of Glasgow.
- Pieper, U. (1998). *Openness and structural dynamics of productivity and employment in developing countries: A case of de-industrialization?* New School for Social Research, New York.
- Rowthorn, B. & Coutts, K. (2004). *De-industrialisation and the balance of payments in advanced economies*, Cambridge Journal of Economics, 28(5).
- Rowthorn, R. & Ramaswamy, R. (1998). *Growth, Trade and Deindustrialization*. Working Paper of the International Monetary Fund, 98 (60).
- Rowthorn, R. & Ramaswamy, R (1997). *Deindustrialization: Causes and Implications*. Working Paper of the International Monetary Fund, 97(42).
- Saeger, S. S. (1997). *Globalisation and Deindustrialisation: Myth and Reality in the OECD*. Weltwirtschaftliches, 133(4).
- Samirul, A. O. (n.d.). *Is Malaysia deindustrializing for the wrong reasons?* Malaysian Institute of Economic Research (MIER).
- Schett, S. (2011). *An Analysis of Shrinking Cities*. Urban Ecology, WS 2011/12.

Schweinberger, A. G. & Suedekum, J. (2009). *De-Industrialisation, Entrepreneurial Industries and Welfare*. Ruhr Economic Papers, 101.

Sundaram, J. K., Schwank, O. & Arnim, R. (2011). *Globalization and development in sub-Saharan Africa*. DESA Working Paper, 102

Wolf, M. (2004). *Why Globalization Works*. Yale, Yale University Press.

Wood, A. (1994). *North-South Trade, Employment and Inequality: Changing Fortunes in a skill Driven World*. Oxford, Clarendon Press.

Wood, A. & Mayer, J. (2010). *Has China de-industrialised other developing countries?* QEH Working Paper Series, 175.

Yumkella, K., Roepstorff, T., Vinanchiarachi, J. & T. Hawkins. (1999). *Globalization and Structural Transformation in Sub-Saharan Africa*. Agricultural Transformation in Africa Workshop. Nairobi, Kenya.