

IMPACT OF INFLATION AND REAL WAGES OVER LABOR PRODUCTIVITY

By

Nada Pervez

22639

A thesis presented to the Department of Management Sciences, Bahria University
Karachi Campus, in partial fulfillment of the requirements
of the MBA degree



Summer, 2015

Bahria University Karachi Campus

**MBA Thesis****2nd Half-semester Progress Report & Thesis Approval Statement**

Name of Student	Nada Pervez
Registration No.	22639
Thesis Title	Impact Of Inflation And Real Wages Over Labor Productivity

Supervisor-Student Meeting Record

No.	Date	Place of Meeting	Topic Discussed	Signature of Student
5	21-10-15	Discussed on phone	- Results of SPSS and its interpretation.	
6	27-10-15	Bahria University Karachi	- Final review of all the chapters.	
7	31-10-15	Bahria University Karachi	- Approval of final thesis.	

APPROVAL FOR EXAMINATIONCandidate's Name: Nada Pervez Registration No. 22639Thesis Title: Impact of Inflation and Real Wages over Labor Productivity.

I hereby certify that the above candidate's thesis has been completed to my satisfaction and, to my belief, its standard is appropriate for submission for examination. I have also conducted plagiarism test of this thesis using HEC prescribed software and found similarity index at 13% that is within the permissible limit set by the HEC for the MBA thesis. I have also found the thesis in a format recognized by the Department of Management Sciences.

Supervisor's Signature: _____ Date: _____

Name: _____

HoD's Signature: _____ Date: _____

Dedication

I dedicate this thesis to my family

For their encouragement, support and love

Declaration of Authentication

I, hereby, declare that no portion of the work referred to in this thesis has been submitted in support of any application for another degree or qualification of this university or any other institution of learning.

Signatures: _____

Name: _____

Date: _____

List of Tables

Table 1 Dependent and Independent Variables.....	15
Table 2 Model Summary	15
Table 3 Coefficients	15
Table 4 Correlations between independent variables	17

Plagiarism Report

IMPACT OF INFLATION AND REAL WAGES OVER LABOR PRODUCTIVITY

ORIGINALITY REPORT

13%	10%	11%	9%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Paresh Narayan. "The effect of inflation and real wages on productivity: new evidence from a panel of G7 countries", Applied Economics, 2007 Publication	3%
2	rierc.org Internet Source	2%
3	carecon.org.uk Internet Source	2%
4	Submitted to Rhodes University Student Paper	1%
5	Submitted to Kolej Universiti Linton Student Paper	1%
6	Submitted to The Hong Kong Polytechnic University Student Paper	1%
7	Submitted to University of the West Indies Student Paper	1%

Acknowledgement

First of all, Thanks to Allah for always being there for me in every step of my life.

I would like to thank my parents who supported me throughout my life and provided me any assistance needed. Thanks to them who had given me strength to fulfill my dreams. I would also like to thank my brothers.

My sincere thanks goes to my supervisor Sir Danish Iqbal who had given me guidance and support throughout my thesis and for the confidence that he had in me. He provided comments at every step in the completion of the thesis, those proved out to be very beneficial. Those inputs and comments were very valuable in my learning process.

A heartfelt thanks to my office colleagues and friends who had given some inputs in the completion of my thesis, they provided assistance on data analysis and also provided the sources from where data is extracted.

Abstract

Purpose- Major aim of this study was to evaluate the impact of real wages and inflation on labor productivity in Pakistan. Inflation is an increment in the normal level of costs of merchandise and administrations in an economy over a timeframe, not an adjustment in any particular cost. At the point when the general value level ascents; every unit of money purchases less products and administrations. Productivity is the measure of total production by a firm, industry, or nation. For productivity, gross domestic product is used as its measure. Minimum wages is taken as the measure for wages.

Methodology- The study involved use of secondary data extracted from the handbook of statistics; State Bank of Pakistan and Pakistan Federal Budget for the period from 2005 to 2014 for analysis. To analyze the data, Regression and Correlation tests were applied.

Findings- The analysis and results evidently recommended that in Pakistan, as inflation increases, there is no impact on labor's production nor their efficiency decreases. On the other hand, when labors are given higher wages their efficiency increases and produce more. It was also concluded that wages increases the motivation to work, hence real wages and labor productivity are positively related.

Practical Implications- Labor productivity is assumed to be a very important part to keep up nation motivated to work and ultimately it will have impact on financial development and additionally to make decisions on controlling inflation or increasing wages.

Keywords: Labor Productivity, Real Wages, Inflation, Regression, Correlation

Table of Contents

2nd Half-semester Progress Report & Thesis Approval Statement	ii
Dedication	iii
Declaration of Authentication	iv
List of Tables	v
Plagiarism Report	vi
Acknowledgement.....	vii
Abstract	viii
Table of Contents	ix
Chapter 1	1
INTRODUCTION	1
1.1 Background Of The Research	1
1.2 Statement Of The Problem.....	2
1.3 Objectives Of The Research.....	2
1.4 Research Questions	2
1.5 Significance Of The Study	3
1.6 Limitations Of The Study	3
1.7 Organization Of The Thesis	3
Chapter 2	5
LITERATURE REVIEW	5
Chapter 3	10
RESEARCH METHOD	10
3.1 Nature Of The Research	10
3.2 Sample Size.....	10
3.3 Variables	10
3.4 Research Hypothesis	10
3.5 Labor Productivity (Dependent Variable).....	11
3.6 Independent Variables	11
3.6.1 Inflation	11
3.6.2 Real Wages.....	12
3.7 Theoretical Framework And Modeling.....	13

3.7.1 Regression Equation..... 13

3.8 Data Collection Method 13

Chapter 4 14

DATA INTEGRATION 14

Real Wages, Inflation And Labor Productivity..... 14

Chapter 5 18

CRITICAL DEBATE 18

Chapter 6 20

CONCLUSION 20

RECOMMENDATION..... 21

BIBLIOGRAPHY 22

Chapter 1

INTRODUCTION

There are many studies conducted over the last few decades and those studies examined the relationship among real wages, inflation and labor productivity for various countries but the conclusion and findings are mixed. Some researchers found a negative relation between inflation and labor productivity but according to some researchers there found no significant relation between inflation and labor productivity. Most of the studies found a positive relation between real wages and productivity.

1.1 Background Of The Research

Pakistan, in the same way as other creating nations, is going through a period when boundless change plan is sought after to enhance basic awkward nature. The conformity's point system is to expand national wage or yield in a manner that it results in impartial appropriation of wealth.

That is, the two destinations of upgraded development and diminished neediness are being sought after through more effective utilization of assets and approach instruments like trade rates change, money related and financial arrangements, and managing an account segment changes to enhance income circumstance. Notwithstanding, it is presently all around perceived that the non-prudent utilization of approach instruments from one viewpoint and wrong sequencing of strategies on the other have drawn out the on-going subsidence.

1.2 Statement Of The Problem

The problem is the changes in the labor productivity which impacts overall production in the economy that is Gross Domestic Product (GDP). This research is conducted in order to find out the reasons of such changes in labor productivity. Inflation and real wages are taken into consideration in this regards.

1.3 Objectives Of The Research

The goal of the research is to discover the factors that affects labor productivity. Inflation and wages are taken into account in this regard. There are various reasons as to why affiliations may exist between inflation, wages and productivity, and such relationship has been guessed by many of the researchers. It is just about standard in the hypothetical writing to visualize that swelling and efficiency development are adversely related as specialists obtaining force influences inspiration and exertion, additionally on the grounds that expansion influences firms' speculation arrangements, impacts capital deterioration rates and instigates changes in the decisions of creation strategies.

1.4 Research Questions

1. What are the variables that affect labor productivity in terms of Gross Domestic Product?
2. Does any relationship exist between real wages and labor productivity?
3. Whether real wages effects labor productivity positively or negatively, if there is found any relationship between them.
4. How intense is the impact of real wages over labor productivity, if there is found any relationship between them.
5. Does any relationship exist between inflation and labor productivity.?
6. Whether inflation effects labor productivity positively or negatively, if there is found any relationship between them.

7. How intense is the impact of inflation over labor productivity, if there is found any relationship between them.

1.5 Significance Of The Study

It is very important to find out the reasons of why company faces difficulty with labor productivity, why there is too much variation in labor productivity and how much each variable has impact over productivity. In this regard, two main variables are tested; wages and inflation.

There is an antagonistic effect on development and appropriation targets. Since the compensation job and expansion connection has been truly influenced amid the most recent decade the investigation of genuine wages and swelling and their association with yield has gotten to be essential to handle work business sector issues.

1.6 Limitations Of The Study

Since the data of Inflation and labor productivity are extracted from the website of state bank of Pakistan and data of minimum wages is extracted from Pakistan Federal Budget, it was very difficult to find the data older than five to six years. The results are derived by taking past few years into account and that would not give the accurate results.

1.7 Organization Of The Thesis

This thesis include six chapters and bibliography / list of references.

Chapter 1 elaborates the background of the research, introduction to the topic, goal and objectives of the research, and explanation of the variables that are taken for measurement, importance and limitation of the study etc.

Chapter 2 provides literature that has been critically reviewed by previous reserachers and it also includes the detailed discussion about the variables keeping in view the practitioners and academicians on the topic.

Chapter 3 provides details about the data, variables and on the method that is used in doing the research, research type and nature. It further elaborates on sample size, method of sampling and methods to collect data which is used for this study, kind of data extracted etc.

Chapter 4 comprised all the secondary data that is extracted and combined. It will also tell about the findings and results of the data and also analysis and interpretation of the data.

Chapter 5 comprised a critical debate on the results and findings that has been drawn in chapter 4 and that debate will be compared and contrasted with views of past researches and literature review.

Chapter 6 constitutes conclusion and recommendations for this study.

Chapter 2

LITERATURE REVIEW

Bardsen et al in 2007 created a hypothesis that there are many reasons why relationships exist between inflation, real wages and labor productivity. In this study real wages, inflation and labor productivity in Australia, it is almost standard in hypothetical writing that there is a negative relation between inflation and labor productivity because worker's motivation and effort is effected by their purchasing power. Another reason for negative relation between the two variables is that, inflation also affects investment plans of the firm, rates of capital depreciation and choices of production techniques.

Wakeford in 2004 theorizes that genuine wages and efficiency are decidedly related. Two primary contentions are significant here. To begin with, higher genuine wages expand the open door expense of occupation misfortune, which can empower more prominent work push to stay away from excess (an effectiveness compensation sort theory). Second, an increment in genuine wages will bring about an increment in the unit expense of work and make firms substitute capital for work, which will be reflected in an increment in the minimal efficiency of work.

Malik and Ahmed in 2001 in their research article The Relationship between Real Wages and Output concentrated on that Information on wage levels was crucial in assessing the expectations for everyday comforts and states of work and life of the representatives. Since apparent pay fail to clear up the getting power of agents, certifiable pay was considered as a huge pointer of laborer's procuring supremacy and also was used by middle person specialist's pay. Variety in pay rate have basic impact on desperation and the carrying of compensation. Exactly when used as a piece of association with other money related

variables, for case occupation or yield they were beneficial markers in the business cycle's examination.

Erenburg in his research in 1998 he reviewed long run affiliation between genuine wages and profitability in US and he took the data from 1948 to 1990 and distinguished the counter-repetitive affiliation between genuine pay and efficiency until the exact position did control the capital stock. His primary discoveries suggest, if general population stock of wealth stayed steady, ultimately both genuine pay and efficiency would be expanded. Be that as it may, utilizing board integration procedures.

Mora et al. in 2005 analyzed the relationship between productivity and wages of more than ten nations of Europe for the period from 1981 to 2001 in his research article and discovered diminishment in the scattering of ostensible pays and unit work costs, yet didn't discover comparable scattering decreases in profitability or genuine wages.

Narayan and Smyth in 2009 in their article utilized board integration methods to look at the connections among genuine pays, inflation, and productivity for G7 nations for the period from 1960 to 2004. He discovered the positive measurably critical relationship among the three variables however no factually noteworthy and negative relationship in the middle of inflation and productivity growth.

According to Wakeford in 2004, genuine wages and efficiency are absolutely related. Two standard discords are essential here. To begin with, higher certifiable wages assemble the opportunity cost of occupation adversity, which can enable more essential work push to stay far from abundance. Secondly, an increment to genuine pays will bring about an increment in the job's unit cost and bring about firms to replace capital for work, which could reflect the increment in the minimal profitability of work.

Gordon in 1987 in his research, that was conducted to find out the relationship among the three variable both outside and inside production in Japan, US and Europe, highlights that substitution from work to capital in light of inflexible increments in genuine wages has always been the core to financial development procedure for a considerable length of time.

Obviously, inflation and wages are moreover related and Hendry in 2001 shows compactly that expansion reacts to abundance requests in numerous parts of an economy including work costs inside of the work market.

Jeffrey Sachs in 1987 in his research, that was conducted on the relationship of pays and unemployment in OECD countries concurred, taking note of that lowest pay permitted by law guidelines and union pay assertions lessen low wage vocation in Europe and drive up productivity in low-wage areas. He watched that the retail area in Germany is extremely capital escalated, with few individuals working in retail outlets.

Jarret and Selody in 1982 in his research article the productivity-inflation nexus in Canada did consider the negative relation between productivity and inflation. Inflation lessened the motivation of labor from job, misshaped educational substance of relative value levels and constricted duty decreases for devaluation. Readings recommended there occurred a negative relationship in the middle of inflation and efficiency.

Tang and Wang in 2004 in their research, an industry's information from an increment in comparable size to total work efficiency development could be wellbeing enhancing or decreasing, contingent upon its reasons. For instance, if an increment in the genuine yield cost of an industry thus an increment in its relative size was brought on by an increment sought after for the business' yield (an upward move in the yield interest bend), then it was wellbeing upgrading, on the grounds that it expanded both customer and maker surpluses. Then again, if an increment in genuine yield cost was brought about by a decline in yield supply (e.g., because of a characteristic catastrophe) or an upward move in the yield supply bend (e.g., because of an increment underway expenses from occasions, for example, genuine income builds), then it was wellbeing lessening, in light of the fact that it diminishes both customer and maker surpluses. Along these lines, from a wellbeing point of view, inability to report for the reasons for change in relative size could make a befuddling impression of an industry's commitment to total work profitability.

Taylor in 1990 in his research Income distribution, inflation, and growth found that estimation for efficiency in an open frugality was dispersed among no less than three gatherings: Profit beneficiaries, laborers and whatever is left from the world. Two ostensible

costs are found there: the conversion scale, which is set up by strategy, and the cash wage, which takes after of institutional contemplations. An adjustment in one with other consistent is certain to have impacts on dissemination and efficiency, by changing the benefit share, the genuine pay or the genuine conversion scale.

Irfan in 2008 in his research Pakistan's wage structure defines the relationship between genuine wages and yield was perplexing furthermore uncertain. Despite reality, which technique for estimation was utilized or which deflator was utilized for the genuine profit the outcomes continued as before. Just distinctive periods for the assembling segment did change the patterned way for genuine income. In order to assemble area, genuine profit had ended up being counter-recurrent. While for horticulture, transport and correspondence, development and the general economy genuine profit is professional patterned, i.e., genuine income tend to increment with monetary development and increments in genuine profit rate have a tendency to diminish destitution. It's the second route round in assembling area. It's essential to specify there that measure for ostensible profit utilized in account to assembling was not the same as the measure utilized for different segments and general economy.

The prior investigations of Dunlop in 1936 in the research of Retrospectives: real and money wage rates and Tarshis in 1939 affirm the star patterned character of the real wages. The observational writing examining the relationship between the progressions in yield and wages does not affirm the connection in any specific heading either.

On premise for which, they doubted countercyclical nature of genuine wages clarified in 1936 by Keynes and in 1966 by Kuh. In 1969, Bodkin likewise exhibited some proof for procyclical nature of real wages. Then again, Otani in 1978 and Neftci in 1978 discovered the negative relationship between wages and yield. That open deliberation proceeds thereafter.

Gafar in later study in 1999 discovers a star repeating nature for wages in a large portion of the Caribbean and Latin American. Subsequently, as indicated by Abraham and Haltiwanger in 1995 the counter or procyclicality of genuine pay can't be connected with any specific methodology.

The board likewise raised some more extensive theoretical issues. Robert Hall in 1983 proposed an option welfare-based methodology for measuring profitability: since utilization is the way to welfare, treat venture merchandise as unadulterated middle inputs in the national records. In this treatment, yield would break even with the generation of utilization merchandise in addition to a term to represent the future stream of utilization merchandise from venture.

Efficiency would likewise be computed with this option yield measure. In this structure, Hall in 1970 included in his research to see the imbalance among three variable in the US markets for labor and as a result he concluded that efficiency and genuine wages should be registered utilizing an utilization deflator, instead of the GDP deflator that is proper if the yield measure is absolute GDP. As Perry also, Bosworth demonstrated, utilizing an utilization deflator yields a more critical perspective of late expectations for everyday comforts than utilizing the GDP deflator.

Chapter 3

RESEARCH METHOD

3.1 Nature Of The Research

The nature of this research is quantitative and basically it is cause and effect study.

3.2 Sample Size

Data is actually not collected from companies, instead it is collected from State Bank of Pakistan. Secondary data is used. 10 yearly observations for all the three variables; inflation, wages, and labor productivity has been taken for the research.

This study comprised of yearly data on the inflation rate that was proxied by growth of consumer price index), real wage that was proxied by minimum wages of Pakistan and productivity was proxied by Gross Domestic Product for Pakistan over the period 2005 to 2014. Data was obtained from the State Bank of Pakistan.

3.3 Variables

This research attempts to study the impact of inflation and real pays over labor productivity. The dependent variable of this research is labor productivity which impact is studied for the independent variables which include real wages and inflation.

3.4 Research Hypothesis

H1. There is a negative impact of inflation on labor productivity.

H2. There is a positive impact of real wages on labor productivity.

3.5 Labor Productivity (Dependent Variable)

An estimation of monetary development of a nation. Work efficiency measures the measure of merchandise and administrations delivered by one hour of work. All the more particularly, work efficiency measures the measure of genuine GDP delivered by an hour of work. Developing work efficiency relies on upon three primary variables: speculation and sparing in physical capital, new innovation and human capital.

Work profitability is a measure of specialist yield utilized as a part of both business and the economy overall. A little entrepreneur concentrates on work profitability as a method for streamlining expenses and expanding yield. Getting the most out of laborers obliges an entrepreneur to put resources into her organization and assemble offices with an eye to the long haul soundness of the business.

3.6 Independent Variables

The independent variables used in this study are as follows:

3.6.1 Inflation

In financial matters, inflation is a sustained increment in the general value level of merchandise and administrations in an economy over a time of time. When the value level ascents, every unit of cash purchases less products and administrations.

Hence, inflation mirrors a diminishment in the buying influence per unit of cash – a loss of genuine quality in the medium of trade and unit of record inside of the economy. A boss measure of value expansion is the inflation rate, the annualized rate change in a general value file (regularly the shopper value list) over time. The inverse of inflation is deflation.

Expansion influences an economy in different ways, both positive and negative. Negative impacts of expansion incorporate an increment in the open door expense of holding cash, instability over future swelling which may demoralize venture and reserve funds, and if expansion were sufficiently quick, shortages of goods as consumers begin hoarding out of concern that prices will increase in the future.

3.6.2 Real Wages

The term genuine wages alludes to wages that have been balanced for expansion, or, equally, compensation as far as the measure of merchandise and administrations that can be purchased.

This term is utilized as a part of difference to ostensible wages or unadjusted wages. Since it has been acclimated to represent changes in the costs of products and administrations, genuine wages give a clearer representation of a singular's wages as far as what they can bear to purchase with those wages - particularly, regarding the measure of merchandise and administrations that can be purchased.

Then again, genuine wages endure the weakness of not being very much characterized, following the measure of swelling (which can be figured in view of diverse mixes of products and administrations) is itself not all around characterized. Subsequently genuine pay characterized as the aggregate sum of merchandise and administrations that can be purchased with a pay, is likewise not characterized. This is on the grounds that adjustments in the relative costs of merchandise and administrations will change the budgetary similarity of different packs of products and administrations.

3.7 Theoretical Framework And Modeling

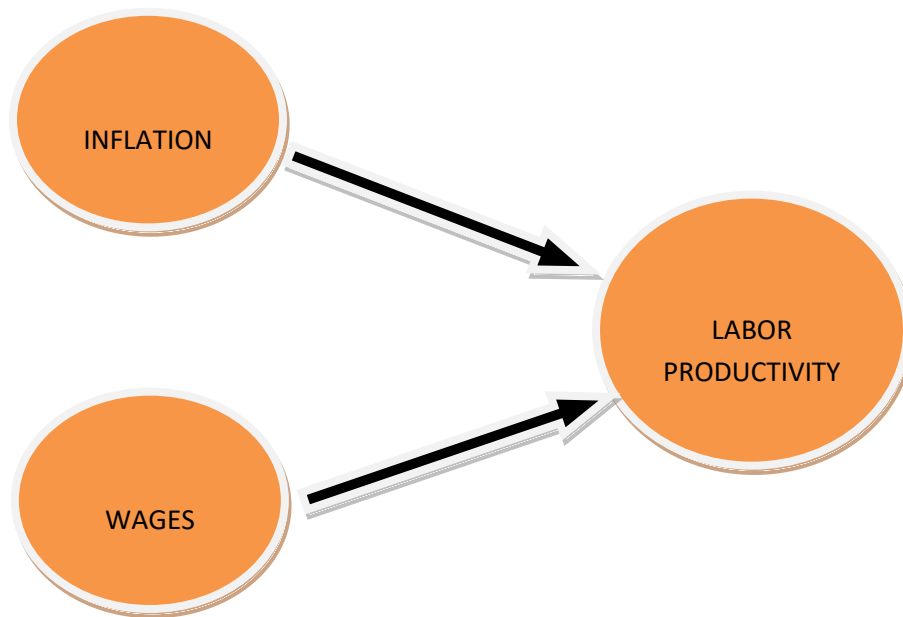
The following model shows the impact of wages and inflation over labor productivity.

3.7.1 Regression Equation

$$Y = b_0 + b_1X_1 + b_2X_2$$

$$\text{Labor Productivity} = b_0 + b_1 (\text{Inflation}) + b_2 (\text{Wages})$$

Where X_1 represents the wage, X_2 represents the inflation and Y is the labor productivity.



3.8 Data Collection Method

The data is extracted from the website of State Bank of Pakistan, Pakistan Federal Budget and through various internet search engines e.g. jstor and Google scholar for articles and index mundi.

Chapter 4

DATA INTEGRATION

Real Wages, Inflation And Labor Productivity

First aim is to find out whether the relationship between the two variables exist or not, If exist then whether it is linear or not before running the regression test. In order to check the linearity, we choose scatter/dot graph in SPSS. Scatter plot is the graphical representation that shows if there is any relationship between the two variables; dependent and independent. In first graph, we have X which denote real wages and Y which denote labor productivity.

It was clearly shown in scatter plot that there is a positive linear relationship between real wages and labor productivity. The scatterplot shows correlation that is $R^2 = 0.973$. Positive R^2 shows that there is positive relationship between real wages and labor productivity and 97.3% shows that there is a strong relationship between the two variables. It can now be concluded that there is a strong positive relationship that exists between real wages and labor productivity and hence labor productivity is strongly dependent on real wages. As real wages increases, labor productivity also increases with almost the same rate. There is some degree of randomness but labor productivity seems to increase almost linearly with respect to real wages.

In the scatter plot of inflation and labor productivity, it was found out that there is a nonlinear relationship between inflation and labor productivity because it does not create a straight line. However, non-linear relation occur when there is little or no relation between dependent and independent variable. Hence, after having a glance at the scatter plot, it is concluded that there is little or no relation between inflation and labor productivity.

The impact of inflation over labor productivity is also tested by the significance level. The significance level in the correlation table is 0.996 and is greater than 0.05 so researcher can conclude that significant relationship was not found between inflation and labor productivity.

Table 1 Dependent and Independent Variables

Variables Entered/Removed ^a			
Model	Variables Entered	Variables Removed	Method
1	INFLATION, Minimum_Wages ^b		Enter

a. Dependent Variable: Labor Productivity

b. All requested variables entered.

Table 2 Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.987 ^a	.974	.967	1169992.81025

a. Predictors: (Constant), INFLATION, Minimum_Wages

R square in the above model summary shows how much real wages and inflation can explain about the change in labor productivity. R square tells us the “goodness of fit” of the model. We can take it as a percentage. R square for this model is 0.967, which means that real wages and inflation impacts about 96.7% of the change in labor productivity.

Table 3 Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-254721.198	1681268.172		-.152	.884
	Minimum_Wages	2246.652	138.243	.988	16.251	.000
	INFLATION	76824.191	123730.486	.038	.621	.554

a. Dependent Variable: Labor Productivity

Finally, the most important table is the coefficients. The significance level for minimum wages is 0.000 and is less than 0.05 and it indicates that researcher can reject null hypothesis which says that there is no relationship between real wages and labor productivity and that there is statistically significant relationship between real wages and labor productivity.

The impact of inflation over labor productivity is also tested by the significance level. The significance level in the correlation table is 0.554 and is greater than 0.05 so researcher can conclude that significant relationship was not found between inflation and labor productivity. Significance level greater than 0.05 also suggest that researcher can fail to reject null hypothesis that there found statistically no relationship between inflation and labor productivity.

The first coefficient, “Constant”, is the intercept term which indicates that if researcher keep the value of real wages and inflation to zero or if researcher keep them constant then the labor productivity will go down to negative value or the intercept is -254,721.

In other words, in the absence of real wages and inflation, labor productivity or Gross Domestic Product of the economy decreases. The amount to which GDP decreases according to this model is Rs. 254,721 Million. This shows that real wages plays a vital part in keep labors motivated and it is a trigger to create more production in the economy.

Regression equation is in this format:

$$Y = b_0 + b_1X_1 + b_2X_2$$

The unstandardized coefficients is used here to create an equation for labor productivity. In the following way, researcher can now plug in the coefficients into the equation to predict labor productivity using a value of real wages and inflation:

$$Y = b_0 + b_1X_1 + b_2X_2$$

$$Y = -254721 + 2247 (\text{Real Wages}) + 76824 (\text{Inflation})$$

Table 4 Correlations between independent variables

		Correlations	
		INFLATION	Minimum_Wages
INFLATION	Pearson Correlation	1	-.040
	Sig. (2-tailed)		.912
	N	10	10
Minimum_Wages	Pearson Correlation	-.040	1
	Sig. (2-tailed)	.912	
	N	10	10

As the significant level (2-tailed) is greater than 0.01, it can be concluded that there is statistically no significant relationship between independent variables that are inflation and minimum wages. It means that increase or decrease in inflation do not significantly relate to increase and decrease in minimum wages and vice versa.

There is one more way to test whether there is any association between the two independent variables or not. The above table shows the correlation coefficient, that lies between -1 and 1. The value of Pearson Correlation between inflation and minimum wages is -0.040 and is negative which shows that as there is increase in inflation there is a tendency of minimum wages to decrease i.e. there is negative but weak relationship between real wages and inflation. Also, when the value of the correlation is close to 1, it shows that there is a strong relationship between the two variables but in this case it is not close to 1, instead it is close to -1 so a weak relationship is found between the two independent variables.

Chapter 5

CRITICAL DEBATE

If researcher compares the findings with other literature, it focused at the relationship in the middle of inflation and profitability, there are moderately few studies on the inflation and wages nexus which was determined by in 1991 by Mehra and it was analyzed in the research that the relationship between inflation and productivity balanced wages, found that over the long haul inflation had a constructive outcome on per-unit work costs but in this research there is found no significant relationship between the two variables.

In additional late studies, In 1993 and in 2000, Mehra reconsidered his prior result and discovered a bidirectional association between inflation and labor productivity over the long run. Other contemplates that have taken a glance at the relationship between productivity and wages are Fountas et al in 1999, L'horty and Rault in 2004 and Gunay et al. in 2005 and found a positive relationship between real wages and labor productivity. In this research, a positive relationship is also found between these two variables.

A few studies have additionally inspected the relationship in the middle of profitability and genuine wages and the researchers were Erenburg, Hsu and Mora et al. There are, on the other hand, few studies that have inspected the relationship between expansion, efficiency and genuine wages. Notwithstanding the Strauss and Wohar in 2004 talked about relationship among these variables. In 1997 Hondroyiannis and Papetrou inspected the relationship between expansion, efficiency and wages in Greece and found that inflation had a negative impact on profitability, yet there found no obvious impact of wages on profitability.

Other related studies incorporate Wakeford which was conducted in 2004 who analyzed the relationship between profitability, unemployment furthermore, compensation in South Africa, Mahadevan furthermore, Asafu-Adjaye in 2006 who examined the relationship between inflation, efficiency and the cash supply in nine Asian nations and Sonmez-

Atesoglu and Smithin in 2006 analyzed the relationship between profitability, genuine wages and monetary development for G7 nations from 1960 to 2002. He discovered the positive measurably critical relationship among the three variables however no factually noteworthy and negative relationship in the middle of inflation and productivity growth.

Previous researches showed a mixed conclusions related to impact of real wages and inflation on labor productivity. This research has incorporated recent developments and worked on recent data on inflation and Gross Domestic Product from handbook of statistics, minimum wages from Federal budget of Pakistan. The findings suggest that if there is an increase in minimum wages of Pakistan, there will be an increase in the overall production of the economy and hence the relationship is very strong between the two variables therefore a small percentage increase in wages will have greater impact on labor productivity.

According to the findings and tests that were applied through SPSS, on the other hand, researcher found very little or no evidence on the fact that inflation has an impact on production. It is found only in one past study that one of the G7 countries had a negative impact of inflation on its production in the long run and that country is United Kingdom. The research showed that as inflation increases by 1%, there is around 0.4% reduction in their labor productivity.

Chapter 6

CONCLUSION

This research experimentally tried to find out the relationship of inflation, real wage and work productivity. Inflation and wages were tested to see their impact on labor productivity and which are the indicators of labor productivity.

Introductory estimation is that there is no effect of inflation on work efficiency, other factor that affects work productivity is time, there is an effect of time on work productivity but time was not taken as the measure. The other variable tested was real wages which was proxied by the minimum wages announced in the federal budget of Pakistan and it is concluded in this research that there is an effect of real wages on work efficiency and that effect is found to be positive. As labors in Pakistan are provided with more wages, they will produce more and it will ultimately have impact on overall economy.

Previous researcher Jarret and Selody in 1982 had considered that inflation and production of the economy are negatively related and inflation reduces the motivating force to work, mutilated the educational substance of relative value levels, and contracted assessment diminishments for deterioration. Studies recommended there was a negative relationship in the middle of expansion and profitability but in this research it is concluded that inflation does not affect production. Productivity does not get affected with increase or decrease in inflation rates.

It was accepted that there is a positive relationship between wages and profitability in light of the fact that higher the wages expanded the open door expense of employment misfortune and invigorated more noteworthy work push to keep away from work misfortune. That positive relationship was additionally expected in light of the fact that higher wages put upward weight on work expenses and reason firms substituted capital for work, in this way expanding the negligible profitability of work.

RECOMMENDATION

The outcomes upheld the conclusion that inflation has no impact on the work efficiency as its examination demonstrated to it is not noteworthy in the wake of applying relapse examination. Genuine compensation have huge effect on work profitability and genuine pay have positive association with work efficiency. Its outcomes demonstrated that relationship between real wages and work profitability is strong.

The findings and results extracted two vital implications. First, there should be less argument when talking about inflation having impact on overall production of the economy because it has been concluded that inflation and production are not related so increase or decrease in inflation would not have any effect on labor productivity. Second, Pakistan should start adopting such policies that could have impact on labor productivity like it should focus on increasing wages and raise benefits and compensation of labors.

Of course, there are other factors that could motivate workers to produce more like financial sector deregulations and reforms. Further studies should be carried out in order to check the stability of the results if other factors are taken into consideration.

BIBLIOGRAPHY

Kumar, S., Webber, D. J., & Perry, G. (2012). Real wages, inflation and labour productivity in Australia. *Applied Economics*, 44(23), 2945-2954.

Malik, A., Ahmed, A. M., & Ali, S. S. (2000). The Relationship between Real Wages and Output: Evidence from Pakistan [with Comments]. *The Pakistan development review*, 1111-1126.

Hendry, D. F. (2001). Modelling UK inflation, 1875–1991. *Journal of applied econometrics*, 16(3), 255-275.

Wakeford, J. (2004). Productivity, Wages and Employment in South Africa's Manufacturing Sector, 1970-2002. *Development Policy Research Unit, Working Paper*, 85(04).

Econmentor. (2014). Retrieved from [http://www.econmentor.com/college-macro/macro-topics/unemployment/relationship-between-wages-productivity-and-inflation/text/702.html#Relationship between wages, productivity and inflation](http://www.econmentor.com/college-macro/macro-topics/unemployment/relationship-between-wages-productivity-and-inflation/text/702.html#Relationship%20between%20wages,%20productivity%20and%20inflation)

Narayan, P., & Smyth, R. (2009). The effect of inflation and real wages on productivity: new evidence from a panel of G7 countries. *Applied economics*, 41(10), 1285-1291.

Gordon, R. J. (1987). Productivity, wages, and prices inside and outside of manufacturing in the US, Japan, and Europe. *European Economic Review*, 31(3), 685-733.

Pakistan Inflation Rate. (n.d.). Retrieved from Index Mundi: [http://www.indexmundi.com/pakistan/inflation_rate_\(consumer_prices\).html](http://www.indexmundi.com/pakistan/inflation_rate_(consumer_prices).html)

(Pakistan Inflation Rate, n.d.)

Abraham, K. G., & Haltiwanger, J. C. (1995). Real wages and the business cycle. *Journal of Economic Literature*, 1215-1264.

Sachs, J. D., & Gordon, R. J. (1983). Real wages and unemployment in the OECD countries. *Brookings Papers on Economic Activity*, 255-304.

Jarret, J. P., & Selody, J. G. (1982). The Productivity-Inflation Nexus in Canada. *Review of Economics and Statistics*, 64(3), 361-367.

Tang, J., & Wang, W. (2004). Sources of aggregate labour productivity growth in Canada and the United States. *Canadian Journal of Economics/Revue canadienne d'économique*, 37(2), 421-444.

Taylor, L. (1991). Income distribution, inflation, and growth: *lectures on structuralist macroeconomic theory*. MIT Press.

Irfan, M. (2008). Pakistan's Wage Structure. *Islamabad: Pakistan Institute of Development Economics*.

Merrick, J. J. (1984). The anticipated real interest rate, capital utilization and the cyclical pattern of real wages. *Journal of Monetary Economics*, 13(1), 17-30.

Medoff, J. L., Hall, R. E., & Solow, R. M. (1983). US labor markets: imbalance, wage growth, and productivity in the 1970s. *Brookings Papers on Economic Activity*, 87-128.

Dunlop, J. T. (1998). Retrospectives: real and money wage rates. *The Journal of Economic Perspectives*, 223-234.

Tarshis, L. (1939). Changes in real and money wages. *The Economic Journal*, 150-154.

Erenburg, S. J. (1998). Productivity, private and public capital, and real wage in the US. *Applied Economics Letters*, 5(8), 491-495.

Mora*, T., Lòpez-Tamayo, J., & Suriñach, J. (2005). Are wages and productivity converging simultaneously in Euro-area countries?. *Applied Economics*, 37(17), 2001-2008.

Mehra, Y. P. (1991). Wage growth and the inflation process: An empirical note. *The American Economic Review*, 931-937.

Mehra, Y. P. (1993). Unit labor costs and the price level. *FRB Richmond Economic Quarterly*, 79(4), 35-51.

Mehra, Y. P. (2000). Wage-price dynamics: are they consistent with cost push?. *FRB Richmond Economic Quarterly*, 86(3), 27-44.

L'horty, Y., & Rault, C. (2004). Inflation, minimum wage and other wages: an econometric study on French macroeconomic data. *Applied Economics*, 36(4), 277-290.

Gunay, A., Metin-Ozcan, K., & Yeldan*, E. (2005). Real wages, profit margins and inflation in Turkish manufacturing under post-liberalization. *Applied Economics*, 37(16), 1899-1905.

Strauss, J., & Wohar, M. E. (2004). The linkage between prices, wages, and labor productivity: A panel study of manufacturing industries. *Southern Economic Journal*, 920-941.

Mahadevan, R., & ASAFU-ADJAYE, J. O. H. N. (2006). IS THERE A CASE FOR LOW INFLATION-INDUCED PRODUCTIVITY GROWTH IN SELECTED ASIAN ECONOMIES?. *Contemporary Economic Policy*, 24(2), 249-261.

Sonmez Atesoglu, H., & Smithin, J. (2006). Real wages, productivity and economic growth in the G7, 1960–2002. *Review of Political Economy*, 18(02), 223-233.

Yildirim, Z. (2015). Relationships among labour productivity, real wages and inflation in Turkey. *Economic Research-Ekonomska Istraživanja*, 28(1), 85-103.