

## Effects of Inflation and Unemployment on Happiness in the Provincial Centers of Iran

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Received: April 16, 2014

Accepted: July 9, 2014

### ABSTRACT

This essay aims to investigate the effects of inflation and unemployment on happiness written in the provinces of Iran. Inflation and unemployment are the most important objective of macroeconomic policy makers because its results are directly related to ordinary citizens. Macro economists and policy both believe that inflation and unemployment are both bad and they reduce social welfare. Literature related to the concept of happiness as well as the vast amount of health or well-being, life satisfaction is used. Oxford Happiness Questionnaire was used to calculate the standard. A random sample Included 1,700 people taking in provincial capital, in 1392 and then this indicator were calculated. The effect of inflation and unemployment, the index was calculated. The results show that the amount of happiness in different states of the world is low compared with the index And inflation and unequal distribution of income has an inverse relationship with happiness in provincial centers but the relationship between unemployment and happiness centers in the provinces of income is not significant.

**KEYWORDS:** Happiness; inflation; unemployment; equality of income distribution; the probity model

### INTRODUCTION

#### Expressed concern

For policy makers, inflation and unemployment are the main objectives of macroeconomic policy because its results have a direct connection with ordinary citizens. For power in democratic systems, political parties and the electorate's attention so much emphasis to economic variables, Because of the negative economic and social losses will cause inflation and unemployment. Empirical estimates of the social welfare functions traditionally imposed prioritize issues and problems such as preference structure is accompanied by the weakening or damage (Wood Ford, 2001). By avoiding a direct estimate of the weight loss function of inflation and unemployment in the happiness literature are used. In the literature related to this concept of happiness or well-being of largely equivalent improvement of life satisfaction has been used as well.

Happiness can be a tool to measure social progress. The other hand, social welfare and progress of happy citizens and communities play an important role. Therefore; a significant overlap exists among the determinants of happiness and human development goals.

Joy Global Sustainability Report for the year 2013 by the Network Solutions (SDSN) was conducted with the support of the United Nations Being a vital component in the measurement of economic and social development considers. This report analyzes data on happiness and review process over time.

In this research, along with a survey of the country in the field of mental health metrics such as Healthy life expectancy, the percentage of corruption, GDP, freedom of choice in life, having social support, and the generosity of this ranking is calculated. According to the universal joy, the joy and life satisfaction in Iran, among 156 countries ranking 115th has been announced (Joy Global Report, edited by helicopter Blackwell and others, 2013).

Happy have a good correlation with psychometric variables used in the analysis. For example, the joy of a good correlation with the geographical characteristics of respondents in different countries. So the scholars to investigate the effects of inflation and unemployment on happiness, assume that self-reported happiness scores, is a good indicator of alternative welfare. Although this concept has been used in many studies are very different and Some believe Questions of welfare indicator is not happiness, but happiness studies indicate widespread use of the concept rather well.

Happiness depends on resolving the key issues of life. Social problems can destroy aggravate social happiness. For example, social issues relating to marriage, housing and jobs for young people can be increase Social deviance or become sad. Happiness studies have mostly been conducted on data from OECD and Studies conducted in Iran is concerned with the relationship between happiness and social base but now, a study on inflation - unemployment Vs had many in Iran and has been taken to provincial capitals. Create a judge of the happiness of the individual, the degree or amount of total utility shed his life , most effective factors such as wealth, health, religion, social protection, employment, entertainment and ... (Raprah and lavingses, 2011).

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This essay aims to investigate the effects of inflation and unemployment on happiness provincial capitals has been prepared. In the second part of the essay is to review the research literature and history, then the research strategy discussion will focus on the statistical information and research methods used. The results related to the estimation of unemployment - inflation is provided happily and at the end of the discussion on the findings and recommendations of the review in accordance with the policy ends.

### Topic Literature and history research

Today there are about a thousand articles on happiness. Also a lot of researcher works on the use of happiness data in economics. In this section we briefly have a review the literature on the relationship between happiness, inflation and unemployment.

Unemployment has both social effects and individual effect. society Concerned about the lack of jobs and people are anxious about the lack of jobs. Researchers have found that inflation and unemployment reduce happiness, But one percentage point increase in the unemployment rate compared with a one percent increase in inflation, is a greater effect on the lack of happiness (sadness and despair). But this has not been proven in all studies, For example, Bejorj Land and Ferry (2008) found that the increase national unemployment rate in Sweden do not reduces average happiness. Also Bvkrmn and Aylmkvnas (2005) in a study in Finland showed that for during the period of 1990 and 1996 do not exists relationship between the average unemployment rate and a average happiness (Alexander, 2013).

Astrlyn (1974) is the first economists who have benefited, about happiness data for Economic Studies. Using data from the country's economic growth and happiness in America during the 1946 to 1957 found that higher income does not necessarily bring happiness. Astrlyn view of economic growth does not lead to increased happiness of people. He believes that happiness is relative, And because of their position in society and their life and they can be compared with those of the economy at every level of economic growth ,society can not affect people's happiness (Asgarizadeh, 2010). Clark and Oswald (1994) that have used the data, of 1991 in Great Britain ,they did not found the certain statistical effect between income and happiness of people in Europe but However, the effect of unemployment on happiness has been very severe such that case of anxiety in unemployed workers has doubled, and its influence the degree of their happiness. D tela, Mkvlach and Oswald (1999) study - entitled upbeat macroeconomic A random sample of data, rejoicing over 26,668 people in America and joy and life satisfaction were over 270105 people in a dozen European countries over the period 1970 to 1990. They introduced their life satisfaction as a function of per capita GDP, unemployment and inflation variables. They also were estimated used a microeconomic model by using equations. The results show that the social welfare is a function reduction of inflation and unemployment. Evidence also suggests that people who are unemployed and people who are less well at higher income levels are be happier. Vynhvv and Hagrtv (2003) in the 1972-1994 periods, a positive correlation between the two factors found happiness and economic growth in America. Avkvnl (2004) examined the Relationships between economic growth, income distribution and average equity satisfaction and happiness for 15 European countries over the four years from 1995 to 1998 and show that equality of income distribution, average happiness is a weak positive correlation. D tela and Mkvlach (2007) showed that life satisfaction data of 600,000 Europeans have negative effects associated with unemployment and inflation rate. D tela and Mkvlach (2008) in study by using data panel for about 350,000 persons in member states of the Organization for Economic Cooperation and Development during the 23 years from 1975 to 1977 showed that the probability of increasing the income of its people are happy. Stevenson and Vlfz (2008) found a positive association between GDP per capita and average happiness among 113 countries. Paul and Inder (2009) showed that inflation and unemployment reduces happiness. However, unemployment causes more unhappiness than inflation (Alexander, 1392). Slzanv (2010) state that the positive relationship between happiness and income based on cross-sectional and secret data there are from both the chamber when the industrialized countries and countries in transition. Paul and Inder (2011) in a study on 17 Latin American countries over the period 1997 to 2006 found that both inflation and unemployment reduces happiness although the impact of inflation on unemployment compared to more happiness. Related studies are subject to the following can be mentioned. Eskandari and Abvnvry (2013) using data from 2001 to 2011 hybrid in Europe Union countries and Iran have shown that happiness is affected by unemployment and inflation. The effect of unemployment on happiness is more than inflation. Also, if GDP per capita increases by one standard deviation growth, its cause to increase happiness to 14 /. SD.

## METHODS OF RESEARCH, DATA AND METHODOLOGIES

### Data

In this essay, the two main sources of information are used. First, the happiness index is based on data collected through the questionnaire was conducted. Oxford Happiness Questionnaire forms the Research Instruments standard. Results indicate that average happiness index is 2.48 in country that the lowest is for north

Khorasan provision with 2.27 and the most is for South Khorasan Province with 2.27. It's the perfect celebration mode index equal to 4 and 2.9 times the world average index (Alexander, 2013). Then Macroeconomic Data were extracted from Site of central bank and statistical center of Iran. Inflation is measured by the annual percentage increase in the consumer price index and the rate of inflation in the year to December 92, Compared to 2012, these criteria were separate provinces. National income were considered separately province according to the latest data released by per capita gross domestic product. Unemployment separate province in autumn 2013 was extracted from the Bank's website. However, the extent of the informal economy in the country, the low employment rate and unemployment insurance than in advanced countries is lower. Quality unemployment rate may be less able to record the actual unemployment rate is defined as the unemployment rate in developed countries.

## METHODOLOGY

Specified model in this paper is as follows:

$$\text{LogRation Happiness} = B_0 + B_1 \text{Unemployment} + B_2 \text{Gini} + B_3 \text{Inflation} + B_4 \text{Res} + u_t$$

Logarithm of the ratio of Happiness, unemployment, Gini coefficient, Inflation, and  $u_t$  is the disturbance.

To calculate the dependent variable, first the number of people answering each question chooses the alternative 3 and 4 are calculated separate province. Choice of 3 and 4 means being happy. The number of people in each province was divided into samples to obtain estimates of relative happiness in each province ( $\bar{P}_i$ ).

Estimates than happy to no joy in every province, ( $\frac{\bar{P}_i}{1-\bar{P}_i}$ ) the logarithm to obtain logration happiness variable.

Independent variables include seasonal unemployment rate (Unemployment) in the fall of 2013 divided the province And the annual inflation rate (Inflation) in Persian date Azar 2013 compared with Azar 2012 estimated Gini coefficient (Gini) separate province based on the latest available data for 1390 microprocessor And gross domestic product (GDP) based on the latest information available, separate province from estimated residual values on a variable degree variable, happiness, family size and age (res). One of the problems is Logit model variance anisotropy. Since such an error is normally distributed with mean zero and variance  $\frac{1}{n\bar{P}_i(1-\bar{P}_i)}$ , can

used the weighted least squares method to eliminate dissonance. So we should divide both sides of the above equation to term of  $\sqrt{W_i} = \sqrt{\frac{1}{n\bar{P}_i(1-\bar{P}_i)}}$  and or multiply to the terms of  $\sqrt{W_i} = \sqrt{n\bar{P}_i(1-\bar{P}_i)}$ . Therefore, an efficient model which can be defined as it can be estimated using ordinary least squares (Fild Pyndyk and Robin, 1991).

$$\sqrt{W_i} \text{LogRation Happiness} = B_0 \sqrt{W_i} + B_1 \sqrt{W_i} \text{Unemployment} + B_2 \sqrt{W_i} \text{Gini} + B_3 \sqrt{W_i} \text{Inflation} + B_4 \sqrt{W_i} \text{Res} + \sqrt{W_i} u_t$$

## The results of estimate model

After the model is used to evaluate the consistency of variance test White. . White-test results show that the probability of F statistic equal to 55/0. Because the amount of 05/0 is more, there is no variance between the anisotropy. The results of these tests are shown in Appendix.

Efficient than OLS estimation results of the equation are given in Table 1.

**Table 1: Results of Happiness Model estimation from Lojit Model**

P-value	The calculated value of t	SD estimator	Estimated coefficients.	Independent Variables
0.000	6.04	0.9099	5.499	The width of the source
0.5093	-0.669	0.001986	-0.001329	unemployment
0.0009	-3.74	0.139775	-0.523566	Income distribution
0.0167	-2.55	0.001448	-0.003701	Inflation
0.000	14.78	0.067164	0.99319	Residual values
F The calculated value of 76.25				
R <sup>2</sup> The calculated value of 0.9214				

The results show that:

1 - The coefficient is significant at 5% inflation. Therefore, there is an inverse relationship between inflation and happiness so that a unit increase in inflation makes the logarithm of the ratio of non-jubilant celebration as a constant rate independent of other variables decrease 0/0037 units.

2 - The coefficient of the income distribution variable is significant at 5% level. Accordingly, we can say that there is an inverse relationship between the Gini coefficient and joy, , Such that A unit an increase in estimate of the Gini coefficient is caused that The logarithm of the ratio of non-jubilant celebration as the other independent variables constant rate of 5235/0 unit decrease.

3 - There is an inverse relationship between unemployment and happiness that this does not correspond with the theoretical expression and the coefficient of this variable is not statistically significant.

4 - The total equation is significant at the 5% level and the coefficient of determination adjusted  $\bar{r}$  suggests that about 91% of the change in the dependent variable by the independent variables equation is justified.

5 - According to Jarg test - the claim normally distributed error terms can be tested. Based on this test, normal distribution of the error terms in the mean% 5 not is dismissed. The graphical representation is given in the Appendix.

**Table 2: Tests of normality of the error distribution**

Such disruption , number of observaion:31	
mean	1.66e-15
maximum	1.61
Minimum	-1.51
Skewness	-0.299
Elongation	3.08
Jark criteria-bra	0.471
probability	0.78

7 - Add the independent variable GDP model causes that the theoretical opposite of the sign of this variable and it is not statistically significant as well.

## RESULTS

Macroeconomists and policymakers are both believes that inflation and unemployment are both bad and they reduce social welfare. The policy question is that, which variable is the more happiness? To answer this question, cross-sectional data from 31 provinces were used to separate celebration in 2013. Happiness index based on a standard questionnaire and collected 1,700 samples a volume provincial center was estimated by researchers. Also the Gini coefficient is calculated based on the micro Census data was calculated by researchers. Information on other variables extracted from the website of the Central Bank of Iran Statistics Center and adjustments necessary for use in the model were obtained by the authors. The logit model is defined on the basis of data was estimated.

The results of this model for provinces of Iran, a part of D tela, mekvach and Oswald (1999), mekvach (2007), Powell and Inder (2009), Lyungas and Inder (2011) and Eskandari and Abonavardi (2013) is consistent. Increase in the Gini coefficient (unequal distribution of income) reduces the logarithm of the ratio of happy people to unhappy people in provinces that The Avkvnl studies (2004), which showed a weak positive correlation between income inequality and average happiness has corresponded. It was also shown that there is not a significant relationship between Logarithm of the ratio and unemployment to the lack of joy and happiness for the people in provincial capitals that ) is similar to Land of the friman (2008) Bokrman studies and Bokrman and ilmknas (2005) .A large underground economy and false jobs and brokerage jobs in the country cause to people with lose their formal jobs they attract these jobs and increase the size of the informal economy and perhaps this is due to lack of correlation between happiness and unemployment . As evidence show that growth of inflation cause to reduces the logarithm of the ratio of happy people to unhappy people in province. Also there is not related between the logarithm of GDP per province with happy logarithm to a lack of Happiness that is consistent with Clark and Oswald Studies (1994).

So is not it better than the central bank's inflation target and reduce the Gini coefficient aims to target people sharing happiness or satisfaction? Perhaps the answer to this question because of low volume samples, due to budget constraints, the authors of the centers of the province and the lack of data on some variables and also questionnaire as well as being native to be questioned. Despite this, we would suggest that happiness data can be prepared by a local scale or using other methods with the central bank and as a policy variable, it should be necessary investment objective.

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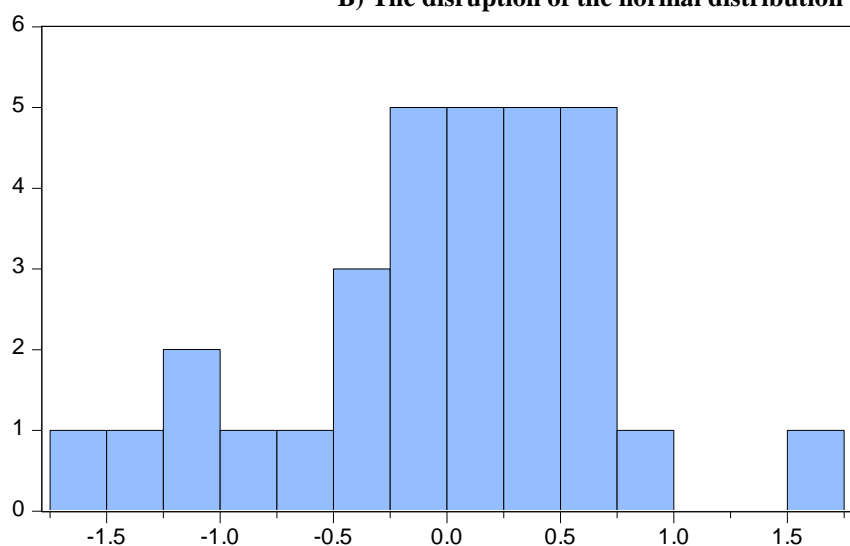
## Appendix

### A) Results of homogeneity of variance test software

Heteroskedasticity Test: White				
0.5538	Prob. F(14,16)		0.925569	F-statistic
0.4593	Prob. Chi-Square(14)		13.87172	Obs*R-squared
0.7492	Prob. Chi-Square(14)		10.17561	Scaled explained SS
			Test Equation:	
		Dependent Variable: RESID^2		
		Method: Least Squares		
		Date: 02/03/14 Time: 14:47		
			Sample: 1 31	
		Included observations: 31		
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.2447	1.207744	10.19295	12.31048	C
0.1465	-1.526024	0.030683	-0.046823	WUNEMPLOYMENT
0.5688	-0.581818	3.37E-05	-1.96E-05	WUNEMPLOYMENT^2
0.2916	1.090687	0.004269	0.004656	WUNEMPLOYMENT*WGINI
0.3574	0.947694	3.83E-05	3.63E-05	WUNEMPLOYMENT*WINFLATION
0.6045	0.528378	0.002777	0.001468	WUNEMPLOYMENT*RES
0.5707	-0.578922	2.219193	-1.284739	WGINI
0.5583	-0.597856	0.238710	-0.142714	WGINI^2
0.3284	1.008056	0.002959	0.002982	WGINI*WINFLATION

0.2325	-1.240858	0.120587	-0.149631	WGINI*RES
0.8797	-0.153802	0.021122	-0.003249	WINFLATION
0.1184	-1.650185	1.19E-05	-1.97E-05	WINFLATION^2
0.7101	0.378342	0.001789	0.000677	WINFLATION*RES
0.9032	0.123566	0.938050	0.115911	RES
0.9252	-0.095342	0.070185	-0.006692	RES^2
0.460211	Mean dependent var		0.447475	R-squared
0.675610	S.D. dependent var		-0.035985	Adjusted R-squared
2.395293	Akaike info criterion		0.687658	S.E. of regression
3.089158	Schwarz criterion		7.565978	Sum squared resid
2.621476	Hannan-Quinn criter.		-22.12705	Log likelihood
2.060944	Durbin-Watson stat		0.925569	F-statistic
			0.553783	Prob(F-statistic)

### B) The disruption of the normal distribution test



Series: Residuals  
Sample 1 31  
Observations 31

Mean -1.66e-15  
Median 0.032067  
Maximum 1.613721  
Minimum -1.519379  
Std. Dev. 0.689603  
Skewness -0.299104  
Kurtosis 3.085627

Jarque-Bera 0.471697  
Probability 0.789900