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Monetary policy and happiness: Preferences over inflation and unemployment in Latin America

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ABSTRACT

Using subjective well-being survey data for Latin America, we present evidence that both inflation and unemployment reduce well-being; where the cost of inflation in terms of unemployment, hence the relative size of the weights in a social well-being functions, is about one to eight, almost double of that found for OECD countries. The trade-off, and therefore the misery index, differs across subgroups. For example, the young and left-leaning citizens are more concerned with unemployment than inflation.

1. Introduction

Inflation and unemployment are perhaps, for policy makers, the two most important macroeconomic policy targets and of direct concern for ordinary citizens. As any student of monetary policy knows, the general policy problem is cast as one of minimising a social welfare loss function, defined over inflation and unemployment space, subject to a short-term Phillips relation. In a dynamic setting, often complemented with estimations of the sacrifice ratio, the policy problem is to determine the optimal path of disinflation policy.

In practice, in policy making circles, the empirical estimation of a welfare loss function is dropped. In fact a pure inflation targeting monetary regime has an implicit loss function that only includes inflation. Since the adoption of inflation targeting by Chile in 1991, other Latin American countries, partly due to its promotion by the IMF, have adopted some variant of an inflation targeting monetary regime. A recent study of seven Latin American countries concluded, "*... for most countries, the interest rate setting ... does not take into account exchange rate changes or the output gap.*" (Carvalho and Moura, 2008). Given the Okun relation between output and unemployment, they presumably do not take into account the unemployment rate. This policy stance contrasts with OECD countries' central banks for which both unemployment and inflation are, in principle, concerns of monetary policy.

Empirical estimates of social welfare functions have been traditionally plagued with problems associated with a priori imposition of preferences structure (see Woodford, 2001). However, recently these problems have been avoided by directly estimating the inflation and unemployment weights in the loss function from happiness surveys.

The literature using this data under the broad concept of well-being uses interchangeably happiness and life satisfaction. Most studies on unemployment–inflation–happiness use life satisfac-

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tion. While the concepts are somewhat different, responses in different surveys are highly correlated. Also, a number of validation studies suggest that happiness questions reveal something meaningful regarding well-being. Self-reported happiness has high test–retest correlations and correlates well with variables used in psychometric analysis. For example, happiness scores correlate well with the demographic characteristics of the respondents across countries, which would not be so if the data was just noise.[2] Thus the inflation–unemployment–happiness research assumes that self-reported happiness scores are a measure of true utility with a high signal to noise ratio. However, most studies on happiness draw almost exclusively on data from OECD countries and as far as we know there is no inflation–unemployment–happiness study on Latin America. A priori we expect different estimations for Latin American countries relative to OECD countries as Latin American countries are subject to more shocks, have higher macroeconomic volatility and have little to no social safety nets – particularly unemployment insurance schemes – relative to OECD countries.

The objective of this paper is to fill this lacuna and present estimations of the weights of inflation and unemployment in the loss function of Latin American countries. The estimated weights are used to draw out the ramifications for monetary policy particularly by contrasting citizen's preferences with those of inflation targeting central bankers. They are also used to contrast with the weights estimated for OECD countries.

The paper is structured as follows. First, we briefly review the literature on inflation–unemployment–happiness that uses country panel data. Second, we present our research strategy discussing the data and methodology used. Third, we present our estimations of the unemployment–inflation trade-off for the general population and for sub-groups. We end the article with a discussion of the policy ramifications of our findings.

2. Literature review

Research on happiness has taken off; there are today "about 10,000 articles on happiness" (Johns and Ormerod, 2008). There are already a number of reference works on the use of happiness data in economics (Frey, 2008; Di Tella and MacCulloch, 2006). In this section we briefly review only the sub-literature on the relation between happiness, inflation, and unemployment that uses cross-country panel data.

In general, the sub-literature focuses on developed countries pertaining to the OECD. The central concern is to determine the cost of inflation in terms of unemployment for a given level of happiness, which is taken to be the implicit utility constant trade-off between inflation and unemployment. The unemployment effects considered are both societal (society becomes more fearful of unemployment) and personal (people who lose their jobs). Researchers have found that both inflation and unemployment reduces happiness, but where a percentage point increase in unemployment has a greater impact on unhappiness than does a percentage point increase in inflation. This is not always the case, for example Bjorjlund and Freeman (2008) found that there was no decline in average happiness in Sweden in response to an increase in national unemployment. There is a range of estimates of the unemployment–inflation's marginal rate of substitution, from 1.6 times (Blanchflower, 2007), to double (Di Tella et al., 2001) to 4.7 times (Wolfers, 2003).[3] The trade-off is also sometimes calculated for sub-groups (Di Tella and MacCulloch, 2007) as the costs of business cycles may differ for different groups (rich versus the poor) or there are different viewpoints according to different political partisans (left versus right).

The empirical estimation of the trade-off faces two main problems. The first problem is that the data on subjective well-being is ordinal. For instance, a typical life satisfaction question is: "would you say that you are: (a) very satisfied, (b) fairly satisfied, (c) not very satisfied, (d) not at all satisfied?" The most common early

Table 1
Life Satisfaction and Unemployment–inflation ordered probit results.[a]

Dependent variable: reported life satisfaction		
	Coefficient	Std. error
Macroeconomic variables		
Unemployment rate	−2.2626*	[1.3136]
Inflation rate	−0.3158***	[0.1121]
Trade-off (unemployment/inflation)	**7.2**	
(95% confidence interval)[b]	(4.8–10.7)	
Trade-off (includes the direct effect of unemployment)	**7.8**	
(95% confidence interval)[b]	(5.6–11.4)	
Variables at the individual level		
Size of the city		
20,000 habs. or less	-0.0743***	[0.0232]
20,001–100,000	-0.0479***	[0.0182]
100,001 or more	(Reference)	
Wealth		
Wealth Index of the reference group[c]	-0.0491	[0.0366]
Relative Wealth Index[d]	-0.0752***	[0.0036]
Demographic		
Age	−0.0165***	[0.0018]
Age squared	-0.0002***	[0.0000]
Male (dummy)	-0.0215**	[0.0092]
Education		
No education	(Reference)	
Primary	-0.0194	[0.0122]
Secondary	-0.0566***	[0.0144]
Tertiary	-0.0923***	[0.0236]
Marital Status		
Single	(Reference)	
Married	-0.0399***	[0.0105]
Divorced or widowed	−0.0444***	[0.0157]
Employment Status		
Wage earners	-0.0271**	[0.0110]
Self-employment: professional and owners	−0.0063	[0.0172]
Self-employment: agriculture and informal	−0.0441***	[0.0113]
Personal unemployment	−0.2115***	[0.0229]
Inactive	(Reference)	
Maximum inflation experienced (age 18+)	−0.0005*	[0.0003]
/cut1	−1.2401	[0.2431]
/cut2	−0.1029	[0.2382]
/cut3	-0.9356	[0.2332]
Observations	121,547	
Pseudo *R*-squared	0.07	

[a] Note that the estimates for unemployment and inflation are based on 119 observations and the regression uses clustered standard errors. Note that the standard error for unemployment is large. This result maybe due to the low number of observations used. Unfortunately lack of data precludes using sub-regional unemployment data within the countries.
[b] Bias-corrected confidence interval based on 500 bootstrapped repetitions.
[c] Average by country, year, gender and group of age.
[d] Equal to the individual's wealth minus the reference group's wealth. Robust standard errors are in brackets.
* Significant at 10%.
** Significant at 5%
*** Significant at 1%.

[2] For a literature review, refer to Di Tella and MacCulloch (2006).
[3] The relation between volatility of inflation and unemployment with happiness has been less studied; the exception is Wolfers (2003). This issue is important to the discussion whether policy makers should target inflation and unemployment levels or their volatility. Data limitations preclude an investigation of this issue in this paper.