Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness

Citation

Permanent link
http://nrs.harvard.edu/urn-3:HUL.InstRepos:41426668

Terms of Use
This article was downloaded from Harvard University’s DASH repository, and is made available under the terms and conditions applicable to Other Posted Material, as set forth at http://nrs.harvard.edu/urn-3:HUL.InstRepos:dash.current.terms-of-use#LAA

Share Your Story
The Harvard community has made this article openly available. Please share how this access benefits you. Submit a story.

Accessibility
Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness

Rafael Di Tella  Robert J. MacCulloch and Andrew J. Oswald
Harvard Business School ZEI, University of Bonn University of Warwick

Revised October 5, 1999.

Modern macroeconomics textbooks rest upon the assumption of a social welfare function defined on inflation, \( \pi \), and unemployment, \( U \). Yet no formal evidence for the existence of such a function has been presented in the literature. Although an optimal policy rule cannot be chosen unless the parameters of the presumed \( W(\pi, U) \) function are known, that has not prevented its use in a large theoretical literature in macroeconomics.

This paper has two aims. The first is to show that citizens care about these two variables, namely, that inflation and unemployment belong in a well-being function. The second is to calculate the costs of inflation in terms of unemployment -- in other words to try to measure the relative size of the weights attached to these variables in social well-being. Policy implications emerge.

---

1 Corresponding author: Rafael Di Tella, Morgan Hall, Soldiers Field, Boston, MA 02163, USA. For helpful discussions, we thank George Akerlof, Danny Blanchflower, Andrew Clark, Ben Friedman, Duncan Gallie, Sebastian Galiani, Ed Glaeser, Berndt Hayo, Daniel Kahneman, Guillermo Mondino, Steve Nickell, Julio Rotemberg, Hyun Shin, John Whalley, three referees, and seminar participants at Oxford, Harvard Business School, and the NBER Behavioral Macro Conference in 1998. The third author is grateful to the Leverhulme Trust for research support.


3 Gregory Mankiw [1997] describes the question "How costly is inflation?" as one of the four major unsolved problems of macroeconomics.
Economists have often puzzled over the costs of inflation. Survey evidence presented in Robert Shiller (1996) shows that, when asked how they feel about inflation, individuals report a number of unconventional costs, like exploitation, national prestige and loss of morale. Yet skeptics wonder. One textbook concludes: "we shall see that standard characterisations of the policy-maker's objective function put more weight on the costs of inflation than is suggested by our understanding of the effects of inflation; in doing so, they probably reflect political realities and the heavy political costs of high inflation." (pp. 567-8, Blanchard and Fischer (1987)). Since reducing inflation is often costly, in terms of extra unemployment, some observers have argued that the industrial democracies’ concern with nominal price stability is excessive -- and have urged different monetary policies.\(^4\)

This paper proposes a new approach. It uses subjective data collected from random samples of individuals. These data cover many countries and provide self-reported measures of how happy and satisfied individual respondents are with their lives. We then correlate happiness data with inflation and unemployment in what could be called “well-being” functions to study these questions. Only a few economists have looked at patterns in reported well-being. Richard Easterlin (1974) helped to begin the literature. Later contributions include Yew-Kwang Ng (1996), Robert Frank (1985), Ronald Inglehart (1990), Andrew Oswald (1997), and David Morawetz et al (1977). More recently Ng (1997) discusses the measurability of happiness, and Daniel Kahneman, Peter Wakker and Rakesh Sarin (1997) provide an axiomatic defence of experienced utility, and propose applications to economics. Our paper also borders on

\(^4\) A recent contribution to this debate in the U.S. is Paul Krugman's piece "Stable Prices and Fast Growth: Just Say No", *The Economist*, August 31\(^{st}\), 1996.
work in the psychology literature; see for example Edward Diener (1984), David Myers (1993), and William Pavot (1991).

Section I describes the main data source, the Euro-Barometer Survey Series. Partly the creation of Ronald Inglehart at the University of Michigan, this records happiness and life satisfaction information on 264,710 people living in twelve European countries over the period 1975 to 1991. We also examine the United States General Social Survey, which records similar information on 26,668 individuals over the period 1972-94. Section II obtains a regression-adjusted measure of the well-being in a particular year and country – the level not explained by an individual’s personal characteristics. This unexplained or residual macroeconomic well-being measure is the paper’s focus.

Using a panel analysis of nations, we show that reported well-being is strongly correlated with inflation and unemployment. It is should be emphasised that we do not ask people whether they dislike inflation and unemployment. Instead individuals are asked in surveys how happy they are with life, and we show that -- possibly unknown to them -- their en masse answers move systematically with their nation’s level of joblessness and rate of price change.\(^5\) The data seem to trace out an economy’s well-being function. Section III concludes.

I. Happiness Data

\(^5\) Our analysis complements the survey approach of, for example, Shiller (1996) who uses questions regarding inflation.
In the Euro-Barometer Survey Series, a cross-section sample of Europeans are interviewed each year. One question asks "Taking all things together, how would you say things are these days--would you say you're very happy, fairly happy, or not too happy these days?". Another elicits answers to a “life satisfaction” question. This, included in part because the word happy translates imprecisely across languages, is worded, "On the whole, are you very satisfied, fairly satisfied, not very satisfied or not at all satisfied with the life you lead?". We concentrate on the life satisfaction data because they are available for a longer period of time – from 1975 to 1991 instead of just 1975-86. Unsurprisingly, happiness and life satisfaction are correlated (the correlation coefficient is 0.56 for the available period 1975-86), so the focus on life satisfaction may be sufficient. The working-paper version of this paper, available on request, presents extra results using happiness statistics.

We also study happiness data from the United States General Social Survey (1972-1994). There the happiness question reads "Taken all together, how would you say things are these days -- would you say that you are very happy, pretty happy, or not too happy?". The question was asked in each of 23 years. There is no life-satisfaction question for the U.S. It would be ideal if the well-being question’s wordings were identical in the European and US cases, but they are not. However, most of the paper’s conclusions rest upon cross-Europe results, where the wording of questions is the same.

We study well-being regressions for both Europe and the US. These are similar to the early micro-econometric happiness regressions for the US and the UK presented in David Blanchflower et al (1993) (Inglehart (1990) also documents the patterns in the
micro data, mainly by looking at cross-tabulations). Although coefficients do not have a cardinal interpretation, the following personal characteristics are positively associated with reported well-being, and are statistically significant, in both continents: being employed, female, young or old (not middle aged), educated, married (neither divorced, not separated nor a widow), with few children, or belonging to a high-income quartile. Separate happiness regressions for each of the European countries largely repeat these results. For example, being unemployed is associated with much lower reported happiness levels in every European country.

Table A1 in the appendix presents a micro-econometric life satisfaction regression for Europe. Greater family income increases the likelihood that a respondent reports a high level of well-being. This effect of income is monotonic and is reminiscent of the utility function of standard economics. The regression evidence is also consistent with the common-sense idea that unemployment is a major economic source of human distress (on psychiatric stress data see Andrew Clark and Oswald (1997)). Our working paper reports further patterns from micro well-being regressions.

II. The Inflation-Unemployment Trade-Off in Happiness Equations

We study a basic regression of the form

\[
\text{LIFE SATISFACTION}_{it} = \alpha \text{ INFLATION}_{it} + \beta \text{ UNEMPLOYMENT}_{it} + \varepsilon_t + \delta_t + \mu_i
\]

where \text{LIFE SATISFACTION} is the average life satisfaction in country \( i \) in year \( t \) that is not explained by personal characteristics, \text{UNEMPLOYMENT} is the unemployment rate in country \( i \) in year \( t \), \text{INFLATION} is the rate of change of consumer prices in country \( i \)
and year $t$, $\varepsilon_i$ is a country fixed effect, $\delta_t$ is a time effect (a year fixed effect), and $\mu_i$ is an error term. Later regressions include a country-specific time trend.

A two-step methodology is employed. In the first stage, micro-econometric OLS life satisfaction regressions are estimated for each country in the sample. The mean residual life-satisfaction is then calculated for each nation in each year, which gives approximately 150 observations (ten countries times fifteen years) in a second-stage regression. These country-by-year unexplained life-satisfaction components are the dependent variable in a second-stage regression of the form given in the equation above. Three-year moving averages of the explanatory variables are used. This smooths out some of the noise evident in the data (and, we found, produces succinct estimating equations while leaving the substantive conclusions unaffected when compared to equations with many lagged and autoregressive terms).

For three reasons, issues of simultaneity are ignored. First, it might be believed that ‘happiness’ does not mold the levels of inflation and unemployment. Second, the aim is the simple one of documenting correlations in the data. Third, it is unclear what variable could serve as an instrument. Nevertheless, future research may have to return to this issue.

---

6 Using residuals from the probit regressions introduces issues that have not been resolved in the statistical literature. The use of OLS regressions has the well-known problem that the data imply the distance between the categories very satisfied and fairly satisfied is the same as the distance between the categories fairly satisfied and not very satisfied. Experiments suggested to us that the precise cardinalization assumed did not alter the results (e.g. a binary representation of well-being led to similar equations).
Data Definitions

LIFE SATISFACTION: The average of the residuals from a Life Satisfaction Ordinary Least Squares regression on personal characteristics. The residuals are averaged for each country and year in the sample (Mean=-0.010; Standard deviation=0.078).

UNEMPLOYMENT: The unemployment rate (three year moving average) from the OECD Economic Outlook (1995) (Mean=0.087; Standard deviation=0.037).

INFLATION: The inflation rate (three year moving average), as measured by the rate of change in consumer prices, from IMF World Tables (1994) (Mean=0.086; Standard deviation=0.059).

Results

Regression (1) of Table 1 studies the dependence of life satisfaction on the unemployment rate and the rate of inflation. The specification includes time and country dummies. The coefficients from regression (1) in Table I imply that higher unemployment and higher inflation both decrease life satisfaction. These effects, with coefficients of −2.0 and −1.2, are each significantly different from zero at the 1% level. The implicit utility-constant trade-off between these variables is therefore approximately 1.7. In order to have a meaningful discussion about a trade-off we must make implicit assumptions, such as that, over the relevant range, utility is linear (so the margin is equal to the average). It is not possible to give a cardinal answer to the question ‘how much does well-being rise as inflation and unemployment decline?’.

It is necessary to make clear within a natural rate framework what such correlations mean. The estimation may be best thought of as describing preferences. Standard economic models suggest that there is no downward-sloping Phillips Curve,
except in the short run, so knowledge of the iso-utility contours are of use to policymakers primarily in informing choice of an optimal dis-inflationary path. The estimates described above, and more broadly this kind of methodology, may be of value to central bankers concerned with the choice of policy trajectories.

Regression (2) in Table I shows that both unemployment and inflation continue to enter negatively and significantly once we introduce country-specific time trends (as requested by a referee). The coefficients on the two variables are now more similar (equality of the coefficients, in regression 2, cannot be rejected statistically at normal confidence levels). Hence life satisfaction appears to be reasonably well-approximated by a simple linear misery function defined on the sum of inflation and unemployment, \( W=W(\pi+U) \).

Regressions (3) and (4) in Table I divide the sample into two time periods: before 1984 and after 1983. The coefficients keep their signs, although, as is to be expected, they are not now as well-defined. Degrees of freedom here are a source of potential concern; but this approach is primarily designed as a check on robustness. Column (5) adds into the equation a squared term in inflation – to test if inflation is particularly bad at high levels – but this leaves the key result unaffected. If an additional squared term in unemployment is entered, its effect is negligible.

Table II presents some further tests of the relationship between inflation, unemployment and well-being. Regression (6) in Table II controls for a lagged dependent variable. It shows that there is a little autoregression, but that life satisfaction data continue to be strongly correlated with macroeconomic variables.
Regression (7) tests whether well-being depends on changes in the two macroeconomic variables. We use the growth in inflation (or unemployment) from one year to the next. There is some evidence that these changes matter. Both enter with the expected negative sign. Regression (8) in Table II shows that the inclusion of a lagged dependent variable reinforces these findings. But the underlying ideas remain the same.

It could be argued that the above calculations underestimate the cost of unemployment. The reason is that the first-stage regressions have already controlled for the personal cost of being unemployed. There is a simple way to take account of the first-stage cost of joblessness. We can calculate from regression (1) that an increase in the unemployment rate from 0 to 1% would have a cost equal to approximately 0.02 for the average citizen whether employed or unemployed. This number may be viewed as capturing a ‘fear of unemployment’ effect. On the other hand, from microeconomic data, a person falling unemployed experiences an actual loss equal to 0.33 in the same units. This number comes from the coefficient on being unemployed in a life-satisfaction micro regression, like the one in appendix Table A1, estimated with OLS to keep the units consistent. The average cost of a 1% point increase in the unemployment rate is therefore the sum of two components: 0.0033+0.02=0.0233. According to the estimates, that well-being cost equals the loss brought about by a 1.97% inflation rate.

*Inflation, Unemployment and Happiness in the United States*

Since there is no question on life satisfaction in the United States General Social Survey (1972-1994), it was not possible to include the US in the panel regressions. Using GSS happiness data we estimated an OLS happiness regression – available upon request - on personal characteristics for the U.S. and obtained the mean residuals for each year. The
year-to-year changes in the "happiness residuals" were negatively correlated with the corresponding year-to-year changes in the so-called misery index. When viewed as two individual explanatory variables, the yearly changes in happiness were somewhat more strongly associated with changes in the unemployment rate than inflation. Necessarily, the US findings stem from a single time-series regression. Broadly, the US results were approximately consistent with, though a little less well-defined than, the European results.

III. Conclusions

The paper presents a new approach to study standard questions in macroeconomics. It studies reported well-being data on a quarter of a million people across twelve European countries and the United States. We show that people appear to be happier when inflation and unemployment are low. Consistent with the standard macroeconomics textbook’s assumption that there exists a social objective function \( W(\pi, U) \), randomly sampled individuals mark systematically lower in well-being surveys when there is inflation or unemployment in their country. The rates of price change and joblessness affect reported satisfaction with life after controlling for the personal characteristics of the respondents, country fixed effects, year effects, country-specific time trends, and a lagged dependent variable. A function reminiscent of the textbook \( W(\pi, U) \) exists in the data.

A large literature in economics has tried to measure the losses from inflation. By examining the appropriate area under a money demand curve, Martin Bailey (1956) and
Milton Friedman (1969) originally concluded that inflation has only small costs. Similarly, Fischer (1981) and Robert Lucas (1981) find the cost of inflation to be low, at 0.3 per cent and 0.45 per cent of national income, respectively, for a 10 per cent level of inflation. The numbers implied by our happiness-equation estimates are consistent with larger welfare losses.

At the margin, unemployment depresses reported well-being more than does inflation. In a panel that controls for country fixed-effects and year effects, the estimates suggest that people would trade off a 1 percentage point increase in the unemployment rate for a 1.7 percentage point increase in the inflation rate. Hence, according to these findings, the famous ‘misery index’ $W(\pi+U)$ somewhat under-weights the unhappiness caused by unemployment.

It seems possible that the methods used in this paper -- the study of well-being regression equations -- may prove useful in other areas of macro-economics.
Table I: Life Satisfaction Equations for Europe 1975-91

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre 84</td>
<td>Post 83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment $t$</td>
<td>-2.0 (0.5)</td>
<td>-1.4 (0.5)</td>
<td>-1.4 (1.3)</td>
<td>-1.8 (1.2)</td>
<td>-1.4 (0.5)</td>
</tr>
<tr>
<td>Inflation $t$</td>
<td>-1.2 (0.4)</td>
<td>-1.4 (0.4)</td>
<td>-1.2 (0.6)</td>
<td>-2.4 (0.8)</td>
<td>-1.8 (0.9)</td>
</tr>
<tr>
<td>Inflation$^2$ $t$</td>
<td></td>
<td></td>
<td>1.9 (3.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Trends$^1$</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Country Dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year Dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>No. of Obs.</td>
<td>150</td>
<td>150</td>
<td>75</td>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td>Adj. R$^2$</td>
<td>0.13</td>
<td>0.51</td>
<td>0.61</td>
<td>0.59</td>
<td>0.51</td>
</tr>
</tbody>
</table>

Notes: [1] Standard errors are in parentheses. Time trends are country-specific. [2] Three-year moving averages of the explanatory variables are used.
Table II: Checks on Life Satisfaction Equations for Europe 1975-91

<table>
<thead>
<tr>
<th></th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Satisfaction t-1</td>
<td>0.2</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.1)</td>
<td>(0.1)</td>
<td></td>
</tr>
<tr>
<td>Unemployment t</td>
<td>-1.3</td>
<td>-1.4</td>
<td>-1.4</td>
</tr>
<tr>
<td></td>
<td>(0.6)</td>
<td>(0.5)</td>
<td>(0.6)</td>
</tr>
<tr>
<td>Inflation t</td>
<td>-1.0</td>
<td>-1.5</td>
<td>-1.2</td>
</tr>
<tr>
<td></td>
<td>(0.4)</td>
<td>(0.4)</td>
<td>(0.4)</td>
</tr>
<tr>
<td>ΔUnemployment t</td>
<td></td>
<td>-1.2</td>
<td>-1.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.7)</td>
<td>(0.7)</td>
</tr>
<tr>
<td>ΔInflation t</td>
<td></td>
<td>-0.7</td>
<td>-1.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.4)</td>
<td>(0.4)</td>
</tr>
<tr>
<td>Time Trends(^1)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Country Dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year Dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>No. of Obs.</td>
<td>139</td>
<td>150</td>
<td>139</td>
</tr>
<tr>
<td>Adj. (R^2)</td>
<td>0.50</td>
<td>0.53</td>
<td>0.53</td>
</tr>
</tbody>
</table>

Notes: [1] Standard errors are in parentheses. Time trends are country-specific. [2] Three-year moving averages of the explanatory variables are used.
Appendix

Table A1:  Life Satisfaction Micro-Equation for Europe (Ordered Probit) 1975-91.

<table>
<thead>
<tr>
<th>Dep Var: Reported Life Satisfaction</th>
<th>Coefficient</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed</td>
<td>-46.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Self employed</td>
<td>6.1</td>
<td>0.8</td>
</tr>
<tr>
<td>Male</td>
<td>-6.7</td>
<td>0.5</td>
</tr>
<tr>
<td>Age</td>
<td>-2.8</td>
<td>0.1</td>
</tr>
<tr>
<td>Age Squared</td>
<td>3.18e-4</td>
<td>9.26e-6</td>
</tr>
<tr>
<td>Education to age: 15-18 years</td>
<td>4.8</td>
<td>0.6</td>
</tr>
<tr>
<td>≥ 19 years</td>
<td>9.0</td>
<td>0.7</td>
</tr>
<tr>
<td>Marital Status: Married</td>
<td>12.9</td>
<td>0.7</td>
</tr>
<tr>
<td>Divorced</td>
<td>-27.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Separated</td>
<td>-33.8</td>
<td>2.2</td>
</tr>
<tr>
<td>Widowed</td>
<td>-15.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Num. of children between 8 &amp; 15 yrs: 1</td>
<td>-3.2</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>-4.5</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>-9.7</td>
<td>1.2</td>
</tr>
<tr>
<td>Income Quartiles : Second</td>
<td>16.8</td>
<td>0.7</td>
</tr>
<tr>
<td>Third</td>
<td>30.2</td>
<td>0.7</td>
</tr>
<tr>
<td>Fourth (highest)</td>
<td>45.8</td>
<td>0.7</td>
</tr>
<tr>
<td>Retired</td>
<td>7.9</td>
<td>0.9</td>
</tr>
<tr>
<td>In school</td>
<td>5.8</td>
<td>1.1</td>
</tr>
<tr>
<td>At home</td>
<td>4.8</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Notes: [1] Number of Observations=264,710. Log-likelihood=269677. Chi²(47)=49196. Cut1=-1.648, Cut2=-0.776, Cut3=0.893. [2] The regression includes country and year dummies from 1975 to 1991. The country dummies (standard errors) are: Belgium 0.494 (0.010), Netherlands 0.880 (0.010), Germany 0.358 (0.009), Italy -0.118 (0.009), Luxembourg 0.753 (0.014), Denmark 1.180 (0.010), Ireland 0.577 (0.010), Britain 0.520 (0.010), Portugal –0.260 (0.012), Greece –0.175 (0.010) and Spain 0.197 (0.013). The base country is France. [3] The exact question is: "On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?". 
References


Blanchflower, David, Oswald, Andrew J. and Warr, Peter B. (1993). "Well-being Over Time in Britain and the USA", London School of Economics, Mimeo.


2008
B01-08  Euro-Diplomatie durch gemeinsame „Wirtschaftsregierung“  Martin Seidel

2007
B03-07  Löhne und Steuern im Systemwettbewerb der Mitgliedstaaten der Europäischen Union  Martin Seidel
B02-07  Konsolidierung und Reform der Europäischen Union  Martin Seidel
B01-07  The Ratification of European Treaties - Legal and Constitutional Basis of a European Referendum.  Martin Seidel

2006
B03-06  Financial Frictions, Capital Reallocation, and Aggregate Fluctuations  Jürgen von Hagen, Haiping Zhang
B02-06  Financial Openness and Macroeconomic Volatility  Jürgen von Hagen, Haiping Zhang
B01-06  A Welfare Analysis of Capital Account Liberalization  Jürgen von Hagen, Haiping Zhang

2005
B11-05  Das Kompetenz- und Entscheidungssystem des Vertrages von Rom im Wandel seiner Funktion und Verfassung  Martin Seidel
B10-05  Die Schutzklauseln der Beitrittsverträge  Martin Seidel
B09-05  Measuring Tax Burdens in Europe  Guntram B. Wolff
B08-05  Remittances as Investment in the Absence of Altruism  Gabriel González-König
B07-05  Economic Integration in a Multicone World?  Christian Volpe Martincus, Jennifer Pédussel Wu
B06-05  Banking Sector (Under?)Development in Central and Eastern Europe  Jürgen von Hagen, Valeriya Dinger
B05-05  Regulatory Standards Can Lead to Predation  Stefan Lutz
B04-05  Währungspolitik als Sozialpolitik  Martin Seidel
B03-05  Public Education in an Integrated Europe: Studying to Migrate and Teaching to Stay?  Panu Poutvaara
B02-05  Voice of the Diaspora: An Analysis of Migrant Voting Behavior  Jan Fidrmuc, Orla Doyle
B01-05  Macroeconomic Adjustment in the New EU Member States  Jürgen von Hagen, Iulia Traistaru

2004
B33-04  The Effects of Transition and Political Instability On Foreign Direct Investment Inflows: Central Europe and the Balkans  Josef C. Brada, Ali M. Kutan, Tamer M. Yigit
B32-04  The Choice of Exchange Rate Regimes in Developing Countries: A Multinominal Panel Analysis  Jürgen von Hagen, Jizhong Zhou
B31-04  Fear of Floating and Fear of Pegging: An Empirical Analysis of De Facto Exchange Rate Regimes in Developing Countries  Jürgen von Hagen, Jizhong Zhou
B30-04  Der Vollzug von Gemeinschaftsrecht über die Mitgliedstaaten und seine Rolle für die EU und den Beitrittsprozess  Martin Seidel
B29-04  Deutschlands Wirtschaft, seine Schulden und die Unzulänglichkeiten der einheitlichen Geldpolitik im Eurosistem  Dieter Spethmann, Otto Steiger
B28-04  Fiscal Crises in U.S. Cities: Structural and Non-structural Causes  Guntram B. Wolff
B27-04  Firm Performance and Privatization in Ukraine  Galyna Grygorenko, Stefan Lutz
B26-04  Analyzing Trade Opening in Ukraine: Effects of a Customs Union with the EU  Oksana Harbuzyuk, Stefan Lutz
B25-04  Exchange Rate Risk and Convergence to the Euro  Lucjan T. Orlowski
B24-04  The Endogeneity of Money and the Eurosystem  Otto Steiger
B23-04  Which Lender of Last Resort for the Eurosystem?  Otto Steiger
B21-04  The Effectiveness of Subsidies Revisited: Accounting for Wage and Employment Effects in Business R&D  Volker Reinthaler, Guntram B. Wolff
B20-04  Money Market Pressure and the Determinants of Banking Crises  Jürgen von Hagen, Tai-kuang Ho
B19-04  Die Stellung der Europäischen Zentralbank nach dem Verfassungsvertrag  Martin Seidel
B18-04 Transmission Channels of Business Cycles Synchronization in an Enlarged EMU
Iulia Traistaru

B17-04 Foreign Exchange Regime, the Real Exchange Rate and Current Account Sustainability: The Case of Turkey
Sübidey Togan, Hasan Ersel

Harry P. Bowen, Jennifer Pédussel Wu

B15-04 Do Economic Integration and Fiscal Competition Help to Explain Local Patterns?
Christian Volpe Martincus

B14-04 Euro Adoption and Maastricht Criteria: Rules or Discretion?
Jiri Jonas

B13-04 The Role of Electoral and Party Systems in the Development of Fiscal Institutions in the Central and Eastern European Countries
Sami Yläoutinen

B12-04 Measuring and Explaining Levels of Regional Economic Integration
Jennifer Pédussel Wu

B11-04 Economic Integration and Location of Manufacturing Activities: Evidence from MERCOSUR
Pablo Sanguinetti, Iulia Traistaru, Christian Volpe Martincus

B10-04 Economic Integration and Industry Location in Transition Countries
Laura Resmini

Ayse Y. Evrensel, Ali M. Kutan

B08-04 European Integration, Productivity Growth and Real Convergence
Taner M. Yigit, Ali M. Kutan

B07-04 The Contribution of Income, Social Capital, and Institutions to Human Well-being in Africa
Mina Baliamoune-Lutz, Stefan H. Lutz

B06-04 Rural Urban Inequality in Africa: A Panel Study of the Effects of Trade Liberalization and Financial Deepening
Mina Baliamoune-Lutz, Stefan H. Lutz

B05-04 Money Rules for the Eurozone Candidate Countries
Lucjan T. Orlowski

B04-04 Who is in Favor of Enlargement? Determinants of Support for EU Membership in the Candidate Countries’ Referenda
Orla Doyle, Jan Fidrmuc

B03-04 Over- and Underbidding in Central Bank Open Market Operations Conducted as Fixed Rate Tender
Ulrich Bindseil

B02-04 Total Factor Productivity and Economic Freedom Implications for EU Enlargement
Ronald L. Moomaw, Euy Seok Yang

B01-04 Die neuen Schutzklauseln der Artikel 38 und 39 des Beitrittsvertrages: Schutz der alten Mitgliedstaaten vor Störungen durch die neuen Mitgliedstaaten
Martin Seidel

2003

B29-03 Macroeconomic Implications of Low Inflation in the Euro Area
Jürgen von Hagen, Boris Hofmann

B28-03 The Effects of Transition and Political Instability on Foreign Direct Investment: Central Europe and the Balkans
Josef C. Brada, Ali M. Kutan, Taner M. Yigit

B27-03 The Performance of the Euribor Futures Market: Efficiency and the Impact of ECB Policy Announcements (Electronic Version of International Finance)
Kerstin Bernoth, Juergen von Hagen

B26-03 Sovereign Risk Premia in the European Government Bond Market (überarbeitete Version zum Herunterladen)
Kerstin Bernoth, Juergen von Hagen, Ludger Schulknecht

B25-03 How Flexible are Wages in EU Accession Countries?
Anna Iara, Iulia Traistaru

B24-03 Monetary Policy Reaction Functions: ECB versus Bundesbank
Bernd Hayo, Boris Hofmann

B23-03 Economic Integration and Manufacturing Concentration Patterns: Evidence from Mercosur
Iulia Traistaru, Christian Volpe Martincus

B22-03 Reformzwänge innerhalb der EU angesichts der Osterweiterung
Martin Seidel

B21-03 Reputation Flows: Contractual Disputes and the Channels for Inter-Firm Communication
William Pyle

B20-03 Urban Primacy, Gigantism, and International Trade: Evidence from Asia and the Americas
Ronald L. Moomaw, Mohammed A. Alwosabi

B19-03 An Empirical Analysis of Competing Explanations of Urban Primacy Evidence from Asia and the Americas
Ronald L. Moomaw, Mohammed A. Alwosabi
The Effects of Regional and Industry-Wide FDI Spillovers on Export of Ukrainian Firms
Stefan H. Lutz, Oleksandr Talave-ra, Sang-Min Park

Determinants of Inter-Regional Migration in the Baltic States
Mihails Hazans

South-East Europe: Economic Performance, Perspectives, and Policy Challenges
Iulia Traistaru, Jürgen von Hagen

Employed and Unemployed Search: The Marginal Willingness to Pay for Attributes in Lithuania, the US and the Netherlands
Jos van Ommeren, Mihails Hazans

FCIs and Economic Activity: Some International Evidence
Charles Goodhart, Boris Hofmann

The IS Curve and the Transmission of Monetary Policy: Is there a Puzzle?
Charles Goodhart, Boris Hofmann

What Makes Regions in Eastern Europe Catching Up? The Role of Foreign Investment, Human Resources, and Geography
Gabriele Tondl, Goran Vuksic

Die Weisungs- und Herrschaftsmacht der Europäischen Zentralbank im europäischen System der Zentralbanken - eine rechtliche Analyse
Martin Seidel

Foreign Direct Investment and Perceptions of Vulnerability to Foreign Exchange Crises: Evidence from Transition Economies
Josef C. Brada, Vladimír Tomsík

The European Central Bank and the Eurosystem: An Analysis of the Missing Central Monetary Institution in European Monetary Union
Gunna Heinsohn, Otto Steiger

The Determination of Capital Controls: Which Role Do Exchange Rate Regimes Play?
Jürgen von Hagen, Jizhong Zhou

Nach Nizza und Stockholm: Stand des Binnenmarktes und Prioritäten für die Zukunft
Martin Seidel

Fiscal Discipline and Growth in Euroland. Experiences with the Stability and Growth Pact
Jürgen von Hagen

Reconsidering the Evidence: Are Eurozone Business Cycles Converging?
Michael Massmann, James Mitchell

Do Ukrainian Firms Benefit from FDI?
Stefan H. Lutz, Oleksandr Talave-ra

Europäische Steuerkoordination und die Schweiz
Stefan H. Lutz

Commuting in the Baltic States: Patterns, Determinants, and Gains
Mihails Hazans

Die Wirtschafts- und Währungsunion im rechtlichen und politischen Gefüge der Europäischen Union
Martin Seidel

2002

An Adverse Selection Model of Optimal Unemployment Assurance
Marcus Hagedorn, Ashok Kaul, Tim Mennel

Trade Agreements as Self-protection
Jennifer Pédussel Wu

Growth and Business Cycles with Imperfect Credit Markets
Debajyoti Chakrabarty

Inequality, Politics and Economic Growth
Debajyoti Chakrabarty

Poverty Traps and Growth in a Model of Endogenous Time Preference
Debajyoti Chakrabarty

Monetary Convergence and Risk Premiums in the EU Candidate Countries
Lucjan T. Orlowski

Trade Policy: Institutional Vs. Economic Factors
Stefan Lutz

The Effects of Quotas on Vertical Intra-industry Trade
Stefan Lutz

Legal Aspects of European Economic and Monetary Union
Martin Seidel

Der Staat als Lender of Last Resort - oder: Die Achillesverse des Eurosystems
Otto Steiger

Nominal and Real Stochastic Convergence Within the Transition Economies and to the European Union: Evidence from Panel Data
Ali M. Kutan, Taner M. Yigit

The Impact of News, Oil Prices, and International Spillovers on Russian Financial Markets
Bernd Hayo, Ali M. Kutan
B19-02  East Germany: Transition with Unification, Experiments and Experiences
Jürgen von Hagen, Rolf R. Strauch, Guntram B. Wolff

B18-02  Regional Specialization and Employment Dynamics in Transition Countries
Iulia Traistaru, Guntram B. Wolff

B17-02  Specialization and Growth Patterns in Border Regions of Accession Countries
Laura Resmini

B16-02  Regional Specialization and Concentration of Industrial Activity in Accession Countries
Iulia Traistaru, Peter Nijkamp, Simonetta Longhi

B15-02  Does Broad Money Matter for Interest Rate Policy?
Matthias Brückner, Andreas Schaber

B14-02  The Long and Short of It: Global Liberalization, Poverty and Inequality
Christian E. Weller, Adam Hersch

B13-02  De Facto and Official Exchange Rate Regimes in Transition Economies
Jürgen von Hagen, Jizhong Zhou

B12-02  Argentina: The Anatomy of A Crisis
Jiri Jonas

B11-02  The Eurosystem and the Art of Central Banking
Gunnar Heinsohn, Otto Steiger

Martin Seidel

B09-02  Monetary Policy in the Euro Area - Lessons from the First Years
Volker Clausen, Bernd Hayo

B08-02  Has the Link Between the Spot and Forward Exchange Rates Broken Down? Evidence From Rolling Cointegration Tests
Ali M. Kutan, Su Zhou

B07-02  Perspektiven der Erweiterung der Europäischen Union
Martin Seidel

B06-02  Is There Asymmetry in Forward Exchange Rate Bias? Multi-Country Evidence
Su Zhou, Ali M. Kutan

B05-02  Real and Monetary Convergence Within the European Union and Between the European Union and Candidate Countries: A Rolling Cointegration Approach
Josef C. Brada, Ali M. Kutan, Su Zhou

B04-02  Asymmetric Monetary Policy Effects in EMU
Volker Clausen, Bernd Hayo

B03-02  The Choice of Exchange Rate Regimes: An Empirical Analysis for Transition Economies
Jürgen von Hagen, Jizhong Zhou

B02-02  The Euro System and the Federal Reserve System Compared: Facts and Challenges
Karlheinz Ruckriegel, Franz Seitz

B01-02  Does Inflation Targeting Matter?
Manfred J. M. Neumann, Jürgen von Hagen

2001

B29-01  Is Kazakhstan Vulnerable to the Dutch Disease?
Karlygash Kuralbayeva, Ali M. Kutan, Michael L. Wyzan

B28-01  Political Economy of the Nice Treaty: Rebalancing the EU Council. The Future of European Agricultural Policies
Deutsch-Französisches Wirtschaftspolitisches Forum

B27-01  Investor Panic, IMF Actions, and Emerging Stock Market Returns and Volatility: A Panel Investigation
Bernd Hayo, Ali M. Kutan

B26-01  Regional Effects of Terrorism on Tourism: Evidence from Three Mediterranean Countries
Konstantinos Drakos, Ali M. Kutan

B25-01  Monetary Convergence of the EU Candidates to the Euro: A Theoretical Framework and Policy Implications
Lucjan T. Orlowski

B24-01  Disintegration and Trade
Jarko and Jan Fidrmuc

B23-01  Migration and Adjustment to Shocks in Transition Economies
Jan Fidrmuc

B22-01  Strategic Delegation and International Capital Taxation
Matthias Brückner

B21-01  Balkan and Mediterranean Candidates for European Union Membership: The Convergence of Their Monetary Policy With That of the Europen Central Bank
Josef C. Brada, Ali M. Kutan

B20-01  An Empirical Inquiry of the Efficiency of Intergovernmental Transfers for Water Projects Based on the WRDA Data
Anna Rubinchik-Pessach

B19-01  Detrending and the Money-Output Link: International Evidence
R.W. Hafer, Ali M. Kutan
B18-01 Monetary Policy in Unknown Territory. The European Central Bank in the Early Years
Jürgen von Hagen, Matthias Brückner

B17-01 Executive Authority, the Personal Vote, and Budget Discipline in Latin American and Carribean Countries
Mark Hallerberg, Patrick Marier

B16-01 Sources of Inflation and Output Fluctuations in Poland and Hungary: Implications for Full Membership in the European Union
Selahattin Dibooglu, Ali M. Kutan

B15-01 Programs Without Alternative: Public Pensions in the OECD
Christian E. Weller

B14-01 Formal Fiscal Restraints and Budget Processes As Solutions to a Deficit and Spending Bias in Public Finances - U.S. Experience and Possible Lessons for EMU
Rolf R. Strauch, Jürgen von Hagen

B13-01 German Public Finances: Recent Experiences and Future Challenges
Jürgen von Hagen, Rolf R. Strauch

B12-01 The Impact of Eastern Enlargement On EU-Labour Markets. Pensions Reform Between Economic and Political Problems
Deutsch-Französisches Wirtschaftspolitisches Forum

B11-01 Inflationary Performance in a Monetary Union With Large Wage Setters
Lila Cavallar

B10-01 Integration of the Baltic States into the EU and Institutions of Fiscal Convergence: A Critical Evaluation of Key Issues and Empirical Evidence
Ali M. Kutan, Niina Pautola-Mol

B09-01 Democracy in Transition Economies: Grease or Sand in the Wheels of Growth?
Jan Fidrmuc

B08-01 The Functioning of Economic Policy Coordination
Jürgen von Hagen, Susanne Mundschenk

B07-01 The Convergence of Monetary Policy Between Candidate Countries and the European Union
Josef C. Brada, Ali M. Kutan

B06-01 Opposites Attract: The Case of Greek and Turkish Financial Markets
Konstantinos Drakos, Ali M. Kutan

B05-01 Trade Rules and Global Governance: A Long Term Agenda. The Future of Banking.
Deutsch-Französisches Wirtschaftspolitisches Forum

B04-01 The Determination of Unemployment Benefits
Rafael di Tella, Robert J. MacCulloch

B03-01 Preferences Over Inflation and Unemployment: Evidence from Surveys of Happiness
Michele Fratianni, Jürgen von Hagen

B02-01 The Konstanz Seminar on Monetary Theory and Policy at Thirty
Etienne Farvaque, Gael Lagadec

B01-01 Divided Boards: Partisanship Through Delegated Monetary Policy

2000

B20-00 Breakin-up a Nation, From the Inside
Etienne Farvaque

B19-00 Income Dynamics and Stability in the Transition Process, general Reflections applied to the Czech Republic
Jens Hölscher

B18-00 Budget Processes: Theory and Experimental Evidence
Karl-Martin Ehrhart, Roy Gardner, Jürgen von Hagen, Claudia Keser

B17-00 Rückführung der Landwirtschaftspolitik in die Verantwortung der Mitgliedstaaten? - Rechts- und Verfassungsfragen des Gemeinschaftsrechts
Martin Seidel

B16-00 The European Central Bank: Independence and Accountability
Christa Randzio-Plath, Tomasso Padoa-Schioppa

B15-00 Regional Risk Sharing and Redistribution in the German Federation
Jürgen von Hagen, Ralf Hepp

B14-00 Sources of Real Exchange Rate Fluctuations in Transition Economies: The Case of Poland and Hungary
Selahattin Dibooglu, Ali M. Kutan

B13-00 Back to the Future: The Growth Prospects of Transition Economies Reconsidered
Nauro F. Campos
Rechtsetzung und Rechtsangleichung als Folge der Einheitlichen Europäischen Währung

Martin Seidel

A Dynamic Approach to Inflation Targeting in Transition Economies

Lucjan T. Orlowski

The Importance of Domestic Political Institutions: Why and How Belgium Qualified for EMU

Marc Hallerberg

Rational Institutions Yield Hysteresis

Rafael Di Tella, Robert MacCulloch

The Effectiveness of Self-Protection Policies for Safeguarding Emerging Market Economies from Crises

Kenneth Kletzer

Financial Supervision and Policy Coordination in The EMU

Deutsch-Französisches Wirtschaftspolitisches Forum

The Demand for Money in Austria

Jan Fidrmuc

Liberalization, Democracy and Economic Performance during Transition

Christa Randzio-Plath

A New Political Culture in The EU - Democratic Accountability of the ECB

1999

Skills, Labour Costs, and Vertically Differentiated Industries: A General Equilibrium Analysis

Stefan Lutz, Alessandro Turrini

Micro and Macro Determinants of Public Support for Market Reforms in Eastern Europe

Bernd Hayo

What Makes a Revolution?

Robert MacCulloch

Informal Family Insurance and the Design of the Welfare State

Rafael Di Tella, Robert MacCulloch

Partisan Social Happiness

Rafael Di Tella, Robert MacCulloch

The End of Moderate Inflation in Three Transition Economies?

Josef C. Brada, Ali M. Kutan

Subnational Government Bailouts in Germany

Helmut Seitz

The Evolution of Monetary Policy in Transition Economies

Ali M. Kutan, Josef C. Brada

Why are Eastern Europe’s Banks not failing when everybody else’s are?

Christian E. Weller, Bernard Morzuch

Stability of Monetary Unions: Lessons from the Break-Up of Czechoslovakia

Jan Fidrmuc, Julius Horvath and Jarko Fidrmuc

Multinational Banks and Development Finance

Christian E. Weller and Mark J. Scher

Financial Crises after Financial Liberalization: Exceptional Circumstances or Structural Weakness?

Christian E. Weller

Industry Effects of Monetary Policy in Germany

Bernd Hayo and Birgit Uhlenbrock

Financial Fragility or What Went Right and What Could Go Wrong in Central European Banking?

Christian E. Weller and Jürgen von Hagen

Size Distortions of Tests of the Null Hypothesis of Stationarity: Evidence and Implications for Applied Work

Mehmet Caner and Lutz Kilian

Financial Supervision and Policy Coordination in the EMU

Deutsch-Französisches Wirtschaftspolitisches Forum

Financial Liberalization, Multinational Banks and Credit Supply: The Case of Poland

Christian Weller

Monetary Policy, Parameter Uncertainty and Optimal Learning

Volker Wieland

The Connection between more Multinational Banks and less Real Credit in Transition Economies

Christian Weller
<table>
<thead>
<tr>
<th>Year</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>Comovement and Catch-up in Productivity across Sectors: Evidence from the OECD</td>
<td>Christopher M. Cornwell and Jens-Uwe Wächter</td>
</tr>
<tr>
<td>1998</td>
<td>Productivity Convergence and Economic Growth: A Frontier Production Function Approach</td>
<td>Christopher M. Cornwell and Jens-Uwe Wächter</td>
</tr>
<tr>
<td>1998</td>
<td>Tumbling Giant: Germany's Experience with the Maastricht Fiscal Criteria</td>
<td>Jürgen von Hagen and Rolf Strauch</td>
</tr>
<tr>
<td>1998</td>
<td>The Finance-Investment Link in a Transition Economy: Evidence for Poland from Panel Data</td>
<td>Christian Weller</td>
</tr>
<tr>
<td>1998</td>
<td>The Macroeconomics of Happiness</td>
<td>Rafael Di Tella, Robert MacCulloch and Andrew J. Oswald</td>
</tr>
<tr>
<td>1998</td>
<td>The Consequences of Labour Market Flexibility: Panel Evidence Based on Survey Data</td>
<td>Rafael Di Tella and Robert MacCulloch</td>
</tr>
<tr>
<td>1998</td>
<td>Labour Market + Tax Policy in the EMU</td>
<td>Deutsch-Französisches Wirtschaftspolitisches Forum</td>
</tr>
<tr>
<td>1998</td>
<td>Can Taxing Foreign Competition Harm the Domestic Industry?</td>
<td>Stefan Lutz</td>
</tr>
<tr>
<td>1998</td>
<td>Free Trade and Arms Races: Some Thoughts Regarding EU-Russian Trade</td>
<td>Rafael Reuveny and John Maxwell</td>
</tr>
<tr>
<td>1998</td>
<td>Fiscal Policy and Intranational Risk-Sharing</td>
<td>Jürgen von Hagen</td>
</tr>
<tr>
<td>1998</td>
<td>Price Stability and Monetary Policy Effectiveness when Nominal Interest Rates are Bounded at Zero</td>
<td>Athanasios Orphanides and Volker Wieland</td>
</tr>
<tr>
<td>1998</td>
<td>Die Bewertung der &quot;dauerhaft tragbaren öffentlichen Finanzlage&quot; der EU Mitgliedstaaten beim Übergang zur dritten Stufe der EWWU</td>
<td>Rolf Strauch</td>
</tr>
<tr>
<td>1998</td>
<td>Der Wettbewerb der Rechts- und politischen Systeme in der Europäischen Union</td>
<td>Martin Seidel</td>
</tr>
<tr>
<td>1997</td>
<td>U.S. Monetary Policy and Monetary Policy and the ESCB</td>
<td>Robert L. Hetzel</td>
</tr>
<tr>
<td>1997</td>
<td>Designing Voluntary Environmental Agreements in Europe: Some Lessons from the U.S. EPA’s 33/50 Program</td>
<td>John W. Maxwell</td>
</tr>
<tr>
<td>1997</td>
<td>Monetary Union, Asymmetric Productivity Shocks and Fiscal Insurance: an Analytical Discussion of Welfare Issues</td>
<td>Kenneth Kletzer</td>
</tr>
<tr>
<td>1997</td>
<td>Estimating a European Demand for Money (überarbeitete Version zum Herunterladen)</td>
<td>Bernd Hayo</td>
</tr>
<tr>
<td>1997</td>
<td>The EMU’s Exchange Rate Policy</td>
<td>Deutsch-Französisches Wirtschaftspolitisches Forum</td>
</tr>
<tr>
<td>1997</td>
<td>Central Bank Policy in a More Perfect Financial System</td>
<td>Jürgen von Hagen and Ingo Fender</td>
</tr>
<tr>
<td>1997</td>
<td>Trade with Low-Wage Countries and Wage Inequality</td>
<td>Jaleel Ahmad</td>
</tr>
<tr>
<td>1997</td>
<td>Budgeting Institutions for Aggregate Fiscal Discipline</td>
<td>Jürgen von Hagen</td>
</tr>
<tr>
<td>1997</td>
<td>Macroeconomic Stabilization with a Common Currency: Does European Monetary Unification Create a Need for Fiscal Insurance or Federalism?</td>
<td>Kenneth Kletzer</td>
</tr>
<tr>
<td>1997</td>
<td>Employment and EMU</td>
<td>Deutsch-Französisches Wirtschaftspolitisches Forum (a Forum organized by ZEI)</td>
</tr>
</tbody>
</table>